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JPRS Report

Proliferation Issues

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PROLIFERATION ISSUES

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30 October 1992

[This report contains foreign media information on issues related to worldwide proliferation and transfer activities in nuclear, chemical, and biological weapons, including delivery systems and the transfer of weapons-relevant technologies.]

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SOUTH AFRICA

IAEA Sees No Proof of Undeclared Nuclear Facilities

MB2210085092 Johannesburg Radio South Africa Network in English 0500 GMT 22 Oct 92

[Text] The International Atomic Energy Agency [IAEA] says it has no information suggesting that South Africa has any undeclared nuclear facilities or material. South Africa, which has for years been suspected of possessing nuclear weapons, signed the Nuclear Nonproliferation Treaty in July 1991, and an inspections agreement with the agency later. The director general of the IAEA, Mr. Hans Blix, said a number of inspections have been carried out on South African nuclear facilities and at locations outside declared facilities. The agency had found no evidence that the inventory was incomplete.

Air Force 'Shopping' in Ukraine for MiG Technology

MB1610191492 Johannesburg THE WEEKLY MAIL in English 16-22 Oct 92 p 6

[By Eddie Koch and Derek Fleming]

[Text] The Air Force is considering importing sophisticated MiG fighter technology from the Ukraine to beef up its outdated air strike capabilities.

Top secret intelligence documents dealing with the South African Defence Force's covert arms procurement operations indicate that Armscor [Armaments Corporation of South Africa] has discussed plans to import MiG 29 engines and sophisticated radar equipment from Kiev.

This would update South Africa's air strike capabilities, the Defence force's Achilles' heel which cost it the war in Angola.

Armscor public relations officer Bertrand Retief declined to comment, saying that it was corporation policy not to give details about where weapons technology was obtained from or sold because the arms embargo against South Africa was still in place.

But another source with full knowledge of the deal confirmed that South African agents have been shopping around in the Ukraine for MiG engines and are discussing the possibility of doing a deal.

"However, the current defence budget is extremely tight and there is almost no chance that we will be able to afford the transaction," he said.

It is possible that privatised companies linked to Armscor will use government sponsored research budgets to bring in the technology.

High on the Armscor shopping list are MiG 29 engines that have been modified to fit the Sukhoi 27 long-range fighter bomber, "over-the-horizon" radar technology and "identify-friend-or-foe" electronic equipment for the cockpit of the aircraft, the documents show.

A source in one of Pretoria's intelligence agencies allowed a reporter to take notes from the documents but would not allow the report to be copied or reproduced in the newspaper.

After the break-up of the Soviet Union, it was agreed that the Ukraine could keep military equipment located on its territory.

An Air Force flying school in Kiev houses a research and avionics laboratory where much of the sought after technology is located.

The Ukraine is keen to do deals of this kind in the next two or three years because the main avionics research and development centres are in Russian territory. This means the equipment is likely to become dated and is most marketable at the moment. South Africa has had full diplomatic status in Russia since February this year and this has allowed officials from Pretoria to travel freely in the former Soviet Republics.

The South African Air Force [SAAF] is about two decades behind in fighter aircraft technology. The Cheetah, a locally modified version of the old Mirage fighter planes, was no match for MiG aircraft during the Angolan war.

It is widely acknowledged that South Africa's air cover was woefully inadequate during the war, leaving ground troops far from their support bases open to air attack.

This problem was confounded by the fact that the air force lacked air interception capabilities—onboard air-to-air missiles and cannonry as well as effective ground-to-air defence systems.

The air force also came up against deflecting paint on the fuselage of Soviet aircraft which made it difficult to detect enemy aircraft. This technology is also on Armscor's procurement list.

Defence analyst Helmut Romer-Heitman says the South African Air Force must replace its existing fighter aircraft by the year 2000. "Its most recent acquisitions are the Mirage F1As which were obtained in mid-1970's and they are getting long in the tooth."

One of the cheapest options for the SAAF [South African Air Force], he says, is to obtain MiG 29 equipment and fit it, mixed with local parts and equipment, to existing aircraft.

Because of the arms embargo, Armscor's technicians have extensive experience and ability to retrofit new parts into old fuselages.

Heitman pointed out that South Africa's Mirages guzzled fuel and did not have the range to provide air cover for the army at the battle of Cuito Cuanavle during the Angolan war, making it apparent that a more advanced and fuel-efficient engine was needed for its fighter aircraft.

Other sources note that Angola and Namibia are negotiating to purchase MiG 29s from Spain and this regional competition is spurring the South Africans on in their efforts to obtain similar technology from the old Soviet bloc.

Late last year the SADF [South African Defence Force] denied media reports that it was trying to purchase MiG 29s from Russia in the wake of the Soviet Union's disintegration.

More recently a Mozambican military officer gave evidence in a Maputo court that top generals in that country had plans to mothball Mozambique's Air Force and well the engines from its MiG fighters to unnamed foreign buyers.

Arms Salesmen Set Sights on East Asia

MB1610181792 Johannesburg THE WEEKLY MAIL
in English 16-22 Oct 92 p 6

[By Martin Navias]

[Text] South African arms salesmen are increasingly targeting the highly lucrative and burgeoning market in east Asian countries.

Talks are under way with a number of states which, in the past, would undoubtedly have shied away from any dealings with South Africa. A legitimate, above-the-board niche is being carved in the region and it could realise substantial profits over the next few years.

Leading the way is Denel Ltd, the private corporation which now oversees the manufacturing branch of Armscor [Armaments Corporation of South Africa]. Denel appears committed to rapidly expanding military exports, with Asia as one of its main focus areas.

Last year, countries in Asia imported about 35 percent of all major weapons systems transferred internationally. Regional insecurities and expanding economies enabled the states to invest huge amounts of money in armaments, and it is to be expected that purchases will remain extremely high.

Denel has been quick to note this and has targeted south-east Asian countries such as Singapore and Thailand. The company offers these countries cheap, high-quality weapons as well as relatively advanced technology with no "end-user" clauses limiting their employment.

Discussions have taken place with the Thais over the transfer of the Rooikat armoured vehicle and communications equipment has already been sold to them. Some form of relationship—the exact parameters are unclear—has been set up with Singapore and may involve co-operation in various types of munitions.

Arms relationships have clearly forged ahead of political relationships, as revealed by the assistance South Africa has provided the Chinese in developing a 155mm artillery piece. Such co-operation is an extremely sensitive issue, however, and there is little information available. But should South Africa succeed in expanding its role inside China, the potential is there for enormous profits to be made.

One area where South Africa may score heavily is in the modernisation of older weapons systems. During the arms

embargo of the 1970s and 1980s, Pretoria's military technicians became world experts in the upgrading of equipment. Retrofits of fighter aircraft and tanks may be just what many Asian countries are looking for.

Finance and technology are also being sought by South African arms producers. Discussions have taken place between South African and Asian officials over difficulties with financing and producing the Roivalk helicopter, for example.

South Africa's defence industries and the marketing of weaponry will require some scrutiny over the next few years. Among the policy questions which should be raised:

- To whom should South Africa sell, and what technologies should not be transferred? This should form part of a broader study of the objectives of foreign policy in the new South Africa.

- The relationship of the state to the arms-manufacturing industry. While a degree of privatisation is to be welcomed, the fact is the state remains heavily involved in defence production and marketing. For example, in the most recent issues of JAMES' DEFENCE WEEKLY, Armscor has taken out a full-page advert pushing the merits of naval, air force and army weaponry.

The key issue here is: where are the monies of South African arms sales going to go? Millions of rands are involved and attention will have to be paid to this subject.

It is fascinating to note the changes that have taken place in the way South African weapons are marketed. In the old days, Armscor played down its South African base and the words "South Africa" rarely appears on their adverts. Today, all such restraint is gone. In bold letters, they proclaim: "For proven solutions to your combat problems, South Africa's arms industry is right on target."

Clearly, there is confidence that South Africa's arms exports have a bright future. A post-apartheid state will undoubtedly be in a far better position to exploit the commercial opportunities.

Armscor Develops Aircraft for Missile Defense

MB1710055092

[Editorial Report] Johannesburg SABC TV 1 Network in Afrikaans on 16 October during the 1800 GMT newscast introduces an almost two-minute report on a newly developed small aircraft which is to be exhibited at the Defense Exposition of South Africa [DEXSA '92] in November.

The aircraft has a wingspan of just over 3.5 meters. It is launched by rockets from a mobile launcher and can cruise for about an hour, powered by a small jet engine. It can reach speeds of up to 800 kilometers per hour. The system is marketed as a high-speed target drone, that can be used for training anti-aircraft and missile defense personnel. The entire system consists of a ground control station and maintenance support equipment, fully transportable by road, sea and air. The drone can be controlled from the

ground, or can fly a pre-programmed route and navigate by using satellites. All information is continuously transmitted to ground control.

According to Armscor, Armaments Corporation of South Africa, it can also operate as a high-speed reconnaissance plane. Other roles could be the topic of lively discussion and speculation. The Drone goes on display at the DEXSA '92 Exposition, the report concludes.

ANC Views on Nuclear Issues Outlined

*MB1610124592 Johannesburg Channel Africa Radio
in English 1000 GMT 16 Oct 92*

[Text] The African National Congress says it believes Africa should be nuclear-free, and that a future South

African government will have to deal with the nuclear capacity of the country in a responsible way.

Speaking on nuclear issues at this week's ANC Forum on Environmental Policy, Prof. Albie Sachs of the organization's environmental desk said the whole issue was shrouded in secrecy.

He said the public had the right to know whether South Africa had developed or tested a nuclear bomb, and if it was selling nuclear materials to other countries.

Prof. Sachs said nuclear power was a highly sensitive issue, which would have to be discussed nationally and internationally by a future government.

RENMIN RIBAO Criticizes U.S. Arms Sales*OW0710163292 Beijing XINHUA in English
1605 GMT 7 Oct 92*

[Text] Beijing, October 7 (XINHUA)—A signed article in the PEOPLE'S DAILY [RENMIN RIBAO] says here today that although the United States has been preaching arms control and the establishment of an international arms sales control mechanism, Washington itself is scrambling for weaponry markets all over the world for fabulous proceeds.

The article, entitled "Arms Transfer: An Instrument of the U.S. To Interfere in Others' Internal Affairs," says the "World Armaments and Disarmament" yearbook 1992 published in Stockholm shows that even though the world's arms sales in 1991 dropped 25 percent from 1990, the United States' arms sales had remained at a high level of nearly 11.2 billion U.S. dollars in 1991, making up 51 percent of the total world arms trade in the year.

So far this year, the article adds, non-governmental arms sales of the United States have topped 13 billion dollars, defending Washington as the no. 1 arms trader in the world.

Facts show, the author of the article says, on the world arms market, the United States is the leader in terms of both quantity and quality of the military equipment sold. A big part of it is highly offensive, such as M1A1 frontline tanks and F-15 and F-16 jet fighters, which were all main weapons used by American troops against Iraqi soldiers during the Gulf war.

In order to expand its sphere of influence in the world, the United States has been selling large quantities of weapons to hot spots in developing countries, a main factor which leads to hectic arms races.

The yearbook shows that of the U.S. weaponry sold to the Third World in 1991, 70 percent went to the Middle East.

The article adds that United States, in order to control the strategic Middle East, has long been delivering great amounts of sophisticated weapons to this area in disregard of the security interests of the region. The United States was one of the two countries which first introduced missiles to the region.

During the 1967 and 1973 Middle East wars, a large number of weapons came from the United States, and during the eight-year Iraqi-Iranian war, the United States had poured fuel on the war fire by selling weapons openly or covertly to both warring sides.

In order to practice its hegemony, the author says, the United States has been using arms transfer as a means to interfere in sovereign countries' internal affairs.

Sales of 150 F-16 jet fighters to Taiwan by the U.S. Government, announced on September 2, is a gross interference in China's internal affairs, doing a great harm to the great cause of China's reunification through peaceful means, the article points out.

It says the Bush administration's move also violated the principles set in the Sino-U.S. joint communique.

The August 17, 1982 Sino-U.S. communique contains explicit provisions concerning U.S. arms sales to Taiwan, which say Washington states that it does not seek to carry out a long-term policy of arms sales to Taiwan, that its arms sales to Taiwan will not exceed, either in qualitative or quantitative terms, the level of those supplied in recent years since the establishment of diplomatic relations between the U.S. and China, and that it intends gradually to reduce its sale of arms to Taiwan, over a period of time, to a final resolution.

The article says the U.S. Government is perfidious when it insists on selling sophisticated jet fighters to Taiwan at a time when the situation over the Taiwan Strait has been eased a lot.

The article notes that the United States is following a double standard and has exposed its hypocrisy when it is selling sophisticated jet fighters to Taiwan while it is lavishly talking about arms control.

UN Committee on Banning Mass Destruction Weapons*OW1210222692 Beijing XINHUA in English
2055 GMT 12 Oct 92*

[Text] United Nations, October 12 (XINHUA)—Global efforts to eliminate all weapons of mass destruction have been called for by the first committee (political and security), as in the previous years.

During its first day of general debate today, the first committee, which is the major organ of the U.N. for disarmament affairs, heard several speakers urging the international community to establish the required mechanisms for the elimination of such weapons.

In his opening speech to the general debate, committee Chairman Nabil Elaraby [name as received] of Egypt said the recent rapid changes affecting the world have signalled the end of an era of confrontation and, at the same time, have given rise to different kinds of conflicts and new hot-beds of tension.

The responsibility for addressing these new problems lay with each country, the chairman continued. All states should recognize the equality of rights and duties to develop and lay the foundations for the norms that would govern international relations.

Nuclear weapons threaten all nations, he went on. All member states therefore must participate, on an equal footing, in the process to eliminate such weapons.

Ronaldo Mota Sardenberg, Brazil's permanent representative to the U.N., pointed out in his speech that despite the many cuts of nuclear arsenals announced by the two superpowers, the remaining nuclear weapons are still enough to destroy the world many times over.

Nuclear-weapon proliferation is always a risk as long as such weapons exist, he went on. "In order to truly eliminate the risk of proliferation of nuclear weapons, all existing nuclear weapons must be ultimately eliminated."

Nuclear weapons should not survive the cold war, Guinea's representative Sekou Camara [bureau records list Sekou Camara as ambassador to Belgium] said, calling on the five permanent members of the Security Council to destroy their nuclear arsenals first.

U.N. Under-Secretary-General Vladimir Petrovskiy for political affairs said disarmament is now, more than ever, regarded as one of the key elements in the approach to international peace and security.

He told the committee that the issue of the proliferation of mass-destruction weapons, which was among the areas of concern during the general debate of the 47th General Assembly, is a comprehensive one of the most important subjects on the disarmament agenda.

He called on the member states to make action-oriented recommendations with "high doses of realism" in the field of disarmament.

Pressure on DPRK Arms Program Allegedly Opposed

OW0210053192 Tokyo KYODO in English 0457 GMT 2 Oct 92

[Text] Tokyo, Oct. 2 KYODO—China does not want North Korea to be "pressured" on the issue of its suspected nuclear weapons development program, a senior South Korean Government official told Foreign Minister Michio Watanabe on Friday, according to Foreign Ministry sources.

Officials said Kim Chongwhi [name as received], chief of staff in charge of diplomacy and international security, made the remarks in a briefing to Watanabe on the results of South Korean President No Tae-wu's recent trip to China.

Kim, who arrived in Japan on Thursday for a three-day visit, was quoted as saying Chinese leaders told No that China does not want either of the two Koreas to possess nuclear weapons.

He said Chinese leaders anticipated an eventual breakthrough on the issue will be achieved through a continuation of inter-Korean talks.

Officials said Watanabe told Kim that with South Korea's normalization of relations with Russia and China, he hopes North Korea will take heed of the new political situation and respond "realistically."

He pledged to South Korea that in future talks with North Korea, Japan would continue to press for assurances Pyongyang has scrapped its suspected nuclear weapons program as a condition for normalizing bilateral ties.

Construction of Qinshan Plant To Continue

OW2310170692 Beijing XINHUA in English 1355 GMT 23 Oct 92

[Text] Hangzhou, October 23 (XINHUA)—The second-phase construction of the Qinshan nuclear power station, which went into operation towards the end of 1991, will start soon in east China's Zhejiang Province.

The 300,000-kw [kilowatt] station is the first of its kind on the Chinese mainland with a generating capacity of 1.5 billion kwh [kilowatt-hours] a year.

The State Council approved the second phase construction in October 1987. So far, the major part of the project's preparatory work has been completed, according to the sources from the power station.

A large number of research institutes nationwide have participated in the geological prospecting, and hydrological and environmental surveys of the project. Major equipment will be manufactured by Harbin, Chengdu and Shanghai.

In addition, two French companies have signed agreements to offer technical aid, the sources said.

The second part of the plant is located two km from the first-phase project. The hard rock and abundant water resources there are said to be ideal for the siting of a nuclear power plant. Supplies of water and electricity, and transportation and communication facilities are all ready for the construction.

Like the first stage, the second-phase project will also adopt the hydraulic-pressure technique. It will consist of two 600,000-kw generating units and provide 7 billion kwh to the east China provinces.

The project is expected to be completed before the year 2000.

UN Envoy on Peaceful Use of Nuclear Energy

OW2110224092 Beijing XINHUA in English 2230 GMT 21 Oct 92

[Text] United Nations, October 21 (XINHUA)—A Chinese representative said here today that many countries, particularly developing countries, urgently need to develop nuclear energy while developing their economy and protect the environment.

Addressing the 47th U.N. General Assembly on the report of the International Atomic Energy Agency (IAEA), Chinese Ambassador Hou Zhitong said that China, while expressing satisfaction with the agency in its positive efforts in safeguards, peaceful use of nuclear energy and nuclear safety, also hoped that it will make greater contribution to promoting the peaceful uses of nuclear energy.

To implement safeguards to prevent nuclear proliferation was another important mission for the IAEA, Hou said, adding that the acceptance of IAEA safeguards should be made a precondition for carrying out international cooperation in the peaceful uses of nuclear energy.

The Chinese delegate said that the two functions of the IAEA to further promote international cooperation in the peaceful uses of nuclear energy and to implement the safeguards should be assigned equal weight, neither can be neglected, and still less can the two be pitted against each other.

He stressed that China supports the IAEA's work in safeguards, at the same time, "We also believe that it is impermissible to use any excuses to infringe upon the legitimate rights and interests of any countries, especially developing countries, in peaceful uses of nuclear energy."

Calling attention to disproportionately heavy emphasis on the prevention of nuclear proliferation while overlooking and misrepresenting developing countries' legitimate demands for cooperation in peaceful uses of nuclear energy by some people, Hou noted that some individual country even went so far as to restrict such cooperation under the pretext of preventing proliferation, in an attempt to monopolize nuclear technology and nuclear energy.

"Undoubtedly such practice not only affects developing countries' economic and social development but is also unhelpful to international efforts for preventing nuclear proliferation. Therefore this tendency should be rectified," Hou emphasized.

While reiterating China's policy of not to advocate, encourage or engage itself in nuclear proliferation, nor to help other countries develop nuclear weapons, and nuclear export principle of assurance for peaceful purposes, acceptance of the iaea's safeguards and no retransfer to a third country, Hou said that China will, as always, follow the policy and principle and further develop its international cooperation in peaceful uses of nuclear energy.

Nepal Hosts Forum on Denuclearization of Koreas
OW1710081592 Beijing XINHUA in English 1324 GMT
16 Oct 92

[Text] Kathmandu, October 16 (XINHUA)—Denuclearization of the Korean peninsula is a pressing

issue in international politics as well as the precondition for Korea's reunification and peace, said a senior official of the International Liaison Committee for Peace and Reunification of Korea.

Guy Dupre, secretary general of the committee, was delivering his report to the two-day International Conference for Denuclearization of the Korean peninsula, which opened here today.

Attending the conference were Beni Bahadur Karki, chairman of the Nepalese upper house, Man Mohan Adhikari, president of the Communist Party of Nepal (UML), and 150 delegates of 30 delegations from 20 countries including France, Japan, Australia, India, Bangladesh, Pakistan, the Republic of Korea, Algeria, Sri Lanka and Thailand.

"The adoption and effectuation of the Agreement on Reconciliation, Non-Aggression, Cooperation and Exchange Between the North and the South and the joint declaration of denuclearization was a remarkable success in the history of Korea's reunification movement," Dupre said. He demanded "immediate implementation of the agreement and the withdrawal of the U.S. troops from South Korea."

Dupre stressed that in order to remove the nuclear threat in the Korean peninsula, "The U.S. nuclear weapons and bases in South Korea must be, first of all, pulled out and confirmed."

The conference adopted a resolution reconfirming that "the withdrawal of the U.S. troops and nuclear weapons from South Korea is necessary for removing nuclear menace, materializing denuclearization, guaranteeing peace and accelerating peaceful reunification of the Korean peninsula."

The conference also adopted a letter to the U.S. President and a letter to the Government of the Republic of Korea.

JAPAN

French Disclosures on Plutonium Shipment Cited *OW2010132792 Tokyo KYODO in English 1315 GMT 20 Oct 92*

[Text] Tokyo, Oct. 20 KYODO—Japan will express its regret to France's state-run nuclear fuel company over its statement to the press on matters relating to the shipment of plutonium to Japan, a Foreign Ministry spokesman said Tuesday.

Spokesman Masamichi Hanabusa told reporters in a press conference here that the government also plans to ask for explanations from the company, considering that divulging of the information constituted "a breach of promise."

He said the government had secured a pledge from Cogema, the French company reprocessing spent nuclear fuel into plutonium at Japan's request, that detailed information relating to the shipment would remain secret.

A number of countries have expressed concern about the Japanese plutonium shipment passing close to their shores on its trip from France to Japan, citing fears of accident or terrorist attacks.

On October 6, Cogema issued a statement to the press saying there is no danger of a leakage of the radioactive material, as it will be secured in 133 casks which can withstand water pressure at depths of 30,000 meters, as well as temperatures of 1,000 degrees Celsius for an hour and a half.

It said the casks have a diameter of 75 centimeters and are about two meters tall, with each being able to store over 10 kilograms of plutonium.

The company further revealed that the 3,800-ton Japanese freighter Akatsuki Maru will be loaded with 15 containers, each containing up to 10 casks.

France To Load in Two Weeks

*OW2410023692 Tokyo KYODO in English 0037 GMT
24 Oct 92*

[Text] Paris, Oct. 23 KYODO—A French state-run nuclear fuel reprocessing company will begin loading plutonium on a Japanese ship within two weeks, reports from Vienna said Friday.

After the plutonium is loaded, the 4,800-ton Akatsuki Maru will leave the port of Cherbourg in northwestern France by the end of November, the report quoted a spokesman of the International Atomic Energy Agency (IAEA) as saying.

The spokesman reportedly said the IAEA has sent officials to the La Hague reprocessing plant of Cogema, the nuclear fuel company that is reprocessing the spent nuclear fuel into plutonium at Japan's request.

Cogema has already been packing plutonium for use as fuel in Japanese fast-breeder nuclear reactors, and IAEA officials are monitoring the packing process, the spokesman was quoted as saying.

The Akatsuki Maru, escorted by a Maritime Safety Agency vessel, is now on its way to France to pick up and ship home one ton of plutonium. Japan plans to eventually ship a total of about 45 tons of plutonium from Europe.

Japanese authorities have refused for security reasons to disclose details of the ship's route or sailing times.

A number of countries have expressed concern about the ship passing close to their shores, citing fears of accidents or terrorist attacks. Plutonium is a key ingredient in the manufacture of nuclear weapons.

The IAEA spokesman was quoted as saying he understands the concern but added that the IAEA is not worried about the shipment.

Spokesman Welcomes Russian Moratorium on N-Tests

*OW2010123092 Tokyo KYODO in English 1159 GMT
20 Oct 92*

[Text] Tokyo, Oct. 20 KYODO—Japan welcomes Russian President Boris Yeltsin decision Monday to extend Russia's moratorium on the testing of nuclear weapons for another eight months, a Foreign Ministry spokesman said Tuesday.

Spokesman Masamichi Hanabusa told reporters that Russia's decision to extend the moratorium until July 1, 1993 is "consonant with the recent noteworthy trend toward a nuclear test ban."

The U.S. Congress earlier this month pressed U.S. President George Bush to suspend nuclear tests until July 1993. The suspension is to be operable on the condition no other country makes nuclear explosions within that time.

Former Soviet President Mikhail Gorbachev announced a one-year unilateral moratorium which took effect in October 1991 and was to last one year.

Hanabusa said Japan hopes the Russian moratorium "will long [as received] be maintained beyond July of next year."

International Team Begins Work on Reactor

*OW2110134892 Tokyo KYODO in English 1325 GMT
21 Oct 92*

[Text] Mito, Ibaraki Pref., Oct. 21 KYODO—A team of 20 scientists from Japan, the United States, Russia, and the European community (EC) began work Wednesday on an international project to build an experimental nuclear fusion reactor.

The team will spend the next six years designing a part for the reactor, known as the International Thermonuclear Experimental Reactor (ITER), at a Japan Atomic Energy Research Institute (JAERI) laboratory, in the central Ibaraki Prefecture town of Naka.

The four parties signed an agreement in July to jointly design the reactor, which is due to be operational by 2005.

Japan was chosen as the host country for a joint engineering design team.

Other teams working on the project began operations at the same time in San Diego in the U.S. and in Garching near Munich, Germany.

The head of the Naka center, Michel Huguet, will coordinate an international team of 20 researchers to work in tandem with the other two centers.

The Naka center will be responsible for the design of the exterior of a vacuum vessel.

Evidence of Cold Nuclear Fusion Alleged

OW2210141892 Tokyo KYODO in English 1329 GMT 22 Oct 92

[Text] Tokyo, Oct. 22 KYODO—Nippon Telegraph and Telephone Corp. (NTT) said Thursday its senior researcher has observed direct evidence of cold nuclear fusion.

Eiichi Yamaguchi, a senior scientist at NTT's basic research laboratories, and another scientist began an experiment in May 1989 to obtain evidence of cold fusion.

NTT officials said the team did not use an electrochemical technique but utilized its experience in solid state physics.

In the experiment, the team used a palladium plate with gold deposited on one side of its surface and manganese oxide on the other.

The plate, 3 centimeters square and 1 millimeter thick, was saturated with deuterium (a heavy isotope of hydrogen) and placed in a vacuum chamber equipped with precise measuring instruments, including a mass spectrometer and charged particle detector.

The inside of the chamber was heated to about 100 degrees celsius. Ninety minutes after the heating began, the temperature of the palladium plate soared to about 200 degrees celsius, and gas was found to be generated.

Analysis showed the gas contained helium-4 atoms, NTT officials said. They said there was no helium-4 in the chamber before the reaction.

The team detected only a small trace of charged particles, such as protons, however.

NTT officials said the team conducted the same experiment five times, generally at intervals of about a week, and observed the same results.

INDONESIA

Official Refuses Passage of Plutonium Ship

BK1810060292 Jakarta Radio Republik Indonesia Network in Indonesian 0000 GMT 18 Oct 92

[Text] Indonesia continues to refuse the passage of Japan's plutonium-carrying ship through the Straits of Malacca and proposes that it use a different route on its way back

from France. This call was made by Director General of Sea Communications Suntoro, who added that Indonesia's refusal was earlier voiced by Foreign Minister Ali Alatas. The Straits of Malacca is a very narrow and busy waterway and Indonesia has therefore firmly refused the passage of the Japanese ship.

UN Urged To Focus On Disarmament Process

BK2310103492 Jakarta ANTARA in English 0906 GMT 23 Oct 92

[Text] New York, Oct 23 (OANA-ANTARA)—Welcoming some encouraging developments in arms limitation and international security talks, Indonesia urged the United Nations to focus its role on arms reduction especially efforts to speed up multilateral disarmament process.

Indonesian permanent representative to the UN Nugroho Wisnumurti here on Wednesday told the UN Commission I which deals with political and security affairs that disarmament, security, economic progress, as well as sustainable development can only be implemented by improving the process and mechanism of international decisions making.

Some encouraging developments in international affairs, he said, include completion of the US-Russia strategic arms reduction talks (Start), statements from Russia, France, and the US on the suspension of nuclear experiments, expansion of the Nuclear Proliferation Treaty (NPT) membership, and completion of chemical weapons convention.

These will lead to a new international climate which would provide more opportunities for the achievement of world peace, security and economic progress, Ambassador Wisnumurti said.

He said the recent 10th summit of the Non-Aligned Movement (NAM) in Jakarta also identified the fact that most agendas on disarmament have not been fulfilled.

Ambassador Wisnumurti said that Indonesia will support United Nations' steps to build mutual respect and trust in international affairs.

If the principle of mutual respect and trust can be applied in all regional conflicts it is likely that in the future various kinds of dispute and conflict can be prevented from taking place, he said.

Indonesia is a [country] which has been involved in the process of negotiation at the UN disarmament conference in Geneva on chemical weapons from the beginning, he said.

The draft on such weapons is scheduled to be ratified by UN General Assembly this year.

Ambassador Wisnumurti believed that the draft will be very important for the international society, particularly developing countries sensitive to the use of such weapons.

But, he reminded that chemical trade and cooperation aimed at increasing development should not be obscured by unilateral or discriminative limitations.

Developed countries, must give more chances to developing ones to create and develop technology for peaceful purposes, he said.

SOUTH KOREA

First Lady Launches First Submarine

*SK1210102792 Seoul YONHAP in English 0501 GMT
12 Oct 92*

[Text] Koche, South Korea, Oct. 12 (YONHAP)—First Lady Kim Ok-suk launched South Korea's first submarine, the Yichun-ham, Monday at the Daewoo dockyard on Koche island, South Kyongsang Province.

President No Tae-u, Chief of Naval Operations Adm. Kim Chol-u, and Daewoo Group Chairman Kim U-chung attended the ceremony.

The 1,200-ton submarine, built entirely with Korean technology, is named after Admiral Yi Chun of the Koryo Kingdom, who defeated a Mongolian armada at Onyang, South Chungchong Province, with more than 20 warships in 1256.

The Yichun can stay at sea for two months with her crew of 30 and load of mines and torpedoes. She is more than twice as fast as North Korea's W-class and R-class submarines, of which the North Korean Navy has 25.

Daewoo Shipbuilding and Machinery Ltd. laid the keel in November 1989 and the Yichun is to be delivered to the Navy in early 1994, after sea trials.

President No said at the ceremony that construction of the Yichun was a great triumph of modern shipbuilding technology by Korea and a gallant undertaking that opened an epoch of improvement for the Korean Navy.

No said his country was modernizing its Armed Forces solely for self-defense and not to threaten others.

"We will never let others ruin the grounds of our lives again," he said.

Koreas Make No Progress in JNCC Talks

*SK2210103292 Seoul YONHAP in English 1015 GMT
22 Oct 92*

[Text] Seoul, Oct. 22 (YONHAP)—South and North Korean officials met at Panmunjom Thursday to work out rules on mutual nuclear inspections, but failed to register any progress.

At the ninth meeting of the South-North Joint Nuclear Control Commission held at Tongilkak in the northern area of Panmunjom, the North indulged merely in the issue of possible resumption of the Team Spirit military exercise, demanding that the South publicly withdraw the "planned resumption" by the end of November.

The South said the question of the Team Spirit exercise depends on whether projected inter-Korean nuclear inspections could be realized.

Southern members of the commission said that even under the 16-point principle on verification of disarmament

adopted by the United Nations in 1988, extensive inspections without allowing any havens and special inspections should be conducted to verify denuclearization of the Korean peninsula.

The South also invited the northern members' attention to Prime Minister Hyon Sung-chong's recent message to the North, in which the premier emphasized that the Team Spirit is a routine defensive training which North Korea can observe and that once mutual nuclear inspections were conducted, its lasting suspension could be considered.

The two sides agreed to hold the 10th Nuclear Control Commission meeting on Nov. 10 and a commission members' contact on Oct. 29 as earlier agreed to.

North Demands Halt to Team Spirit Exercises

*SK2210075292 Seoul YONHAP in English 0732 GMT
22 Oct 92*

[Text] Seoul, Oct. 22 (OANA-YONHAP)—North Korea demanded Thursday that South Korea announce cancellation of military exercise "Team Spirit" by the end of next month before expecting progress in negotiation for inter-Korean mutual nuclear inspection.

South Korea should not hold any military exercise mobilizing nuclear and related weaponry and equipment, it demanded.

The two-and-half hour meeting of the inter-Korean Joint Nuclear Control Commission (JNCC) was spent entirely on the cross-fire about the Seoul-Washington decision to prepare for the annual military maneuver Team Spirit for 1993 unless there is progress in the talks for the mutual inspection, Kong No-myung, South Korean side chairman of the JNCC, said.

The decision was made at the 24th Security Consultative Meeting earlier this month.

The two sides "did not even mention" specifics to the inspection procedures, he said.

Pyongyang officials insisted Seoul announce by the end of next month the cancellation of Team Spirit and abort all military maneuver involving nuclear weapons and equipments. Only under these conditions would North Korea make efforts for early mutual inspection, Kong said.

They threatened to "make blank" the agreement on reconciliation, nonaggression and exchanges and cooperation unless South Korea agreed to these points.

Seoul officials reminded that it is up to Pyongyang whether South Korea and the United States can decide to withhold Team Spirit next year. Pyongyang could get Seoul and Washington to withhold the exercise by agreeing to hold the first nuclear inspection by December, they said.

It also reminded North Korea that its People's Army officials had been invited since 1982 to observe the Team Spirit to show that it was a defensive exercise and that they are invited to next year's maneuver as well.

South Korea insists that the first nuclear inspection should take place by December, the first-year anniversary of the inter-Korean declaration of denuclearization of the Korean peninsula.

It insists on short-notice inspection on both civilian and military installations.

JNCC working-level talks will open as scheduled on Oct. 29 and the full commission meeting will open on Nov. 10.

NSP Says North Building Up Biochemical Weapons

SK2310045192 Seoul YONHAP in English 0410 GMT 23 Oct 92

[Text] Seoul, Oct. 23 (YONHAP)—North Korea has manufactured and stored biochemical weapons of mass destructive power since the late 1960's and is believed to have set up strategies to use them, the agency for National Security Planning (NSP) said Friday.

North Korea began to develop biochemical weapons in late 1960's upon the order of President Kim Il-song and has cultured 13 kinds of bacteria including yersinia pestis, bacillus anthracis, vibrio cholera 01, salmonella typhi, and clostridium botulinum since the 1980's, NSP said in its report to the National Assembly National Defense Committee.

"Only 1.8 grams of yersinia pestis and four grams of clostridium botulinum may exterminate the entire population in South Korea," NSP said.

North Korea is capable of producing as much as 200 tons of agar-agar, the medium nurturing the bacteria, annually, and its chemical factories in Suncheon and Aoji may specialize in the production of biological weapons at wartime. Ryongsong and haesan beer plants may also turn out such weapons, NSP said.

The agency said biological weapons could be used for a variety of purposes because they are light and easy to carry. They can be used with missiles, trench mortars, an-2 aircraft, helicopters and hand grenades. The weapons may be the choice of spies and guerrillas.

The biochemical weapons can be used even during peacetime because they are effective in disrupting the public sentiment or assassinate specific figures or residents of an area en masse, NSP said.

North Korea began to manufacture some chemical agents from the early 1970's and to produce in large quantity

cyanic chloride, picric chloride, phenol chloride and others at nine plants. The annual production capacity is around 5,000 tons, NSP said.

Some 1,000 tons of the chemical agents are kept at six storages across the country, it added.

North Korea conducted 630 exercises for chemical warfare during 1980-91. In the 1970s, only a score of drills were conducted in the 1970's but the number increased to more than 100 recently, NSP said.

There are two regiments under the general staff of the North Korean People's Army.

The North also has more than 1,000 poison-counteracting vehicles and 500 detection mobiles and anti-gas masks have been distributed not only to the military but also to most of the ordinary people, NSP said.

North Korea, if it strikes South Korea in a desperate effort to maintain its system, is believed to mobilize chemical weapons to break through the frontline in a short while, the agency said.

It said North Korea would utilize chemical weapons as the most effective card in mounting political and psychological threats to South Korea.

TAIWAN

PRC Denies N-Weapons Purchase From Russia

OW2410102292 Taipei Voice of Free China in English 0200 GMT 24 Oct 92

[From the "News and Commentary" program]

[Text] The mainland authority on Thursday denied a report that it had bought missiles and nuclear technology from Russia. Foreign Ministry Spokesman Wu Jianmin said that there was no such a thing at all. A NEW YORK TIMES report this week said that Russia had sold China missile guidance technology, rocket engines, rocket technology, and technology to improve Chinese air-to-air missiles. According to unidentified U.S. officials in Washington, Russian tanks, tank technology and S-300 surface to air missiles also were sold. The S-300's, similar to the U.S.-made Patriot, are designed to shoot down planes and missiles. On Wednesday, a Chinese Foreign Ministry official said that the two countries [word indistinct] normal exchanges and cooperation in the field of material technology, but he did not confirm or confirm the TIMES report. Officials in Washington said they fear that China was acquiring the technology to develop new weapons to sell to the Third World. Chinese military leaders have been trying in recent years to improve the quality of their technology, especially after seeing U.S. smart weaponry in use during the Gulf war.

INTER-CARIBBEAN AFFAIRS

Regional Opposition to Japan's Plutonium Shipment

Tourist Groups Protest

*FL1510012492 Bridgetown CANA in English 1954 GMT
14 Oct 92*

[Text] Bridgetown, Barbados, Oct 14, CANA—The Caribbean's major government and private sector tourism groupings have added their voice to those calling for the barring of a deadly shipment of plutonium through the region.

The Caribbean Tourism Organisation and the Caribbean Hotel Association in a statement Wednesday said they viewed "with concern the news that a shipment of plutonium en route to Japan from France will traverse the Caribbean Sea and that this region may become a likely route for shipments of plutonium from Europe to Japan".

"Recognising the irreversible damage that can be done to the Caribbean Environment in the event of any danger to the shipment, the CTO and CHA are hoping that all reasonable thinking and friendly nations within the passage of the shipment would take all steps necessary to prevent the shipment from passing through this hemisphere," they said.

They added that Caribbean tourism is a totally environmentally dependent industry and plutonium is one of the most toxic and dangerous substances.

"CTO and CHA call on regional and international governmental and non-governmental organisations to support the efforts of the Caribbean Conservation Association and other agencies in mobilising the energies of the total Caribbean and its friends and allies, to take the measures necessary to persuade those responsible for the shipping of the plutonium through the Caribbean Sea to desist from so doing."

The plutonium shipment is expected to enter the Caribbean near monthend if the route through the Panama Canal is chosen. South American, African and Asian countries have stated they do not want the substance shipped through their waters.

CCA Urges Caricom Summit

*FL1810212592 Bridgetown CANA in English 1952 GMT
18 Oct 92*

[By Hallam Hope]

[Text] Bridgetown, Barbados, Oct 18, CANA—Caribbean environmentalists, claiming widespread support for protests against a shipment of plutonium, want to raise their concerns at a month-end summit of regional leaders in Trinidad and Tobago, a leading spokesman said Sunday.

Executive Director of the Caribbean Conservation Association (CCA) Calvin Howell said on CBC radio "massive" support for action to be taken on the planned shipment

had come from concerned citizens and environmentalists, amounting to an indictment of the inaction of regional governments.

The CCA was attempting either to have the issue put on the leaders' agenda or "to have it raised at some appropriate point during the meeting", added Howell. He said a unified regional approach was required to prevent the shipment coming to the region but just three of 13 Caribbean Community (Caricom) governments had responded to approaches from his organisation.

The environmentalist joined University of the West Indies chemistry professor Oliver Headley on CBC's "Hotseat" discussion programme in expressing strong concern about possible environmental fall-out from the shipment, scheduled to pass through the Caribbean Sea later this month.

The shipment is expected to leave the French port of Cherbourg shortly bound for Japan via the Mona Passage, separating Puerto Rico and Hispaniola, and thence the Panama Canal. Greenpeace International reports that the plutonium is ready to be loaded onto a vessel which is due in Cherbourg shortly.

Howell said the Caribbean had no nuclear plants and no capacity to deal with a nuclear accident. Dr. Headley, noting Japan's position as a "cash fluid country", suggested Caribbean governments were afraid to offend them in the event of having to seek future loans.

He argued that the plutonium should be shipped via Eastern Europe and Russia, since the latter had nuclear plants and were better prepared to handle an accident.

The shipment is expected to be the first of several and Puerto Rico is reported to have stated that it would seize the vessel if it enters its territorial waters.

The regional conservation association would be attempting to put the matter on an agenda specifically featuring a regional tariff on third country exports and recommendations of a commission on economic and political integration.

St. Kitts Ministry Opposes Shipment

*FL2510205392 Bridgetown CANA in English 1648 GMT
24 Oct 92*

[Text] Basseterre, St. Kitts, Oct 24, CANA—St. Kitts and Nevis has urged Japan to desist from shipping any hazardous material through the Caribbean Sea. A statement from the Ministry of Foreign Affairs said any mishap could lead to the destruction of the "very lifeblood of this twin island nation of St. Kitts and Nevis."

The statement came against the backdrop of a notice from the Embassy of Japan in Port-of-Spain in relation to plans to ship 1.7 tonnes of plutonium from France to Japan shortly. An official source said the ministry advised the embassy that the Government of St. Kitts and Nevis noted various measures the Japanese had taken to secure safe transport of the plutonium. It pointed out that government was not convinced that these measures were adequate, however. "Accidents or acts of terrorism can occur during

the ship's voyage," the Ministry of Foreign Affairs said in a letter to the Japanese Embassy.

It also emphasised that the protection of the country's population, marine environment, and marine life was vital to the continued existence of the people of St. Kitts and Nevis. A spokesman at the ministry said government strongly protested against the planned shipment of plutonium across the Caribbean in general and most importantly the territorial waters of the twin-island federation.

Prime Minister Dr. Kennedy Simmonds voiced concern about the dangers of such a move during his address to the current session of the United Nations General Assembly earlier this month. Parliamentary opposition leader Dr. Denzil Douglas had earlier stated his objection to the shipment in a statement carried in the local press. Other individuals and groups here have since joined a growing list coming out in condemnation of the planned shipment of plutonium.

Further on Caribbean Stand

*FL1910224392 Bridgetown CANA in English 2154 GMT
19 Oct 92*

[By Hallam Hope]

[Text] Bridgetown, Barbados, Oct 19, CANA—From fears of a terrorist attack on the ship to a collision on the high seas, the Caribbean is becoming increasingly jittery about a Japan-bound freighter and its cargo of plutonium that is expected to sail through the region soon. The 1.7 tonnes of radioactive material is believed by environmentalists to be the first of many future shipments to pass through the Caribbean Sea as Japan seeks to build its nuclear energy stockpile.

There has been a generally mute response from regional governments, but hoteliers, trade unionists, and groups of concerned citizens have joined the regional environmental body, Caribbean Conservation Association (CCA), to demand a halt to the shipment. At the weekend, time for such lobbying appeared to be running out.

While the Akatsuki Maru was yet to dock in the western French port of Cherbourg, the plutonium was reported by Greenpeace International to be ready for imminent loading and a journey clouded in secrecy, taking it through the Mona Passage between Puerto Rico and the Dominican Republic and the Panama Canal.

Machinery is being put in place to have the issue raised at a special conference of Caribbean Community (Caricom) heads of government in Trinidad and Tobago at month-end, convened primarily to discuss political and economic matters.

With the experiences of the Chernobyl and Three Mile Island incidents, environmentalists regard the risks of contamination of the eco-system, the health of the Caribbean community's 5 million citizens, and its critical tourism industry to be too high.

"The Caribbean has no capacity to deal with a nuclear accident," said CCA Executive Director Calvin Howell.

The extent of the official response to the development was raised at the United Nations in the form of regional concern about the shipment. Caribbean foreign ministers have also formally asked the UN to investigate the "circumstances and method of transportation."

The strongest reaction is reported to have come from Puerto Rico, which, CANA radio reported, has threatened to seize the vessel if it enters its territorial waters. The Japanese freighter's route includes the Mona Passage which Puerto Rico shares with the Dominican Republic. Puerto Rico's Environmental Quality Board and the federal Environmental Protection Agency say they would not be allowing any plutonium shipment to pass through Puerto Rico.

President of the Environmental Quality Board, Pedro Ojeda, said world treaties on the transportation of dangerous materials, allow countries to decide whether such shipments may pass within their air or marine territorial waters. The Jamaica Government also reported that "high level contact" had also been made with U.S. and Japanese governments "with a view to expressing our concerns about the shipment, particularly in light of the region's inability to deal with the consequential effects of any disaster arising out of any accidents." But independent observers, including University of the West Indies chemistry professor Dr. Oliver Headley, question whether Tokyo's position as a source of loan financing for the region will influence the level of the Caribbean's response.

Because of the secrecy of the trip, Greenpeace says it plans to monitor the route taken by the vessel and advise countries of its location. The immediate concern of environmentalists is getting the shipment stopped, however, and the Caribbean Conservation Association says only a unified regional stand can be expected to bring results.

The shipment could well mark the first of many using the Caribbean route, since Japan is building up its nuclear energy reserves as an alternative to oil-sourced energy. Greenpeace reports that Japan plans to have up to 45 tonnes of plutonium produced in Europe before the year 2000, all of which will be shipped by sea. The Japanese have contracts with reprocessing plants in Britain and France. At these plants, says Greenpeace, plutonium destined for return to Japan, is separated from highly radioactive spent fuel.

It notes: "In the course of this separation process, a tremendous amount of radioactive waste is produced (plutonium separation or "reprocessing" produces a volume of nuclear waste 160 times greater than was started with). As part of its contracts, Japan must accept the return of some of this waste."

THE WASHINGTON POST, meanwhile, reported Saturday that the United States had ruled out the use of the Panama Canal by the freighter. Several governments, including Hong Kong, Singapore, South Africa, Chile, and Argentina were also said to have banned the ship. Howell of the CCA said Monday regional government support for a ban appeared to be growing.

INDIA

Flight Version of PSLV Successfully Tested 18 Oct
BK1910055492 Delhi All India Radio Network in English
0245 GMT 19 Oct 92

[Text] The flight version of the liquid propulsion second stage of the Polar Satellite Launch vehicle, PSLV, was successfully ground tested yesterday in Mahendragiri near Kanniyakumari. The project director of the Mahendragiri Liquid Propulsion System Center described the test as a milestone in the PSLV program.

Rao Discusses Talks on Nonproliferation
93WP0010 Madras THE HINDU in English 1 Oct 92 p 1

[Text] New Delhi, Oct. 1—The Prime Minister, Mr. P.V. Narasimha Rao, today revealed that France was the second country, besides the U.S., with which India was discussing the future shape of the nuclear non-proliferation treaty (NPT) with a view to making it non-discriminatory and global in approach.

The context for this is the decision to "intensify cooperation" between the two countries. Mr. Rao described his three-day visit to France as "fruitful" and said it had "evoked responses."

The NPT comes up for review in 1995, but discussions leading up to the proposed review are to begin next year. Mr. Rao told reporters, at Hyderabad House on his return from Paris, that "I think in our discussions I got the distinct impression that France is in agreement with this eventual picture of NPT as we want it to emerge."

"They may have their own circumstances, take a particular action which is in line with their circumstances (France signed the NPT only recently though the treaty has been in force for two decades), but when it comes to discussing the contents of the NPT what it should be, not what is contained in the present treaty; but what the shape of non-proliferation as such should be in the world—this is the thing.

"This is the subject on which we are having discussions at the foreign secretary level with the US. also, and we have similar discussions with France."

These "all-round discussions" would add up to something quite effective when it came to reviewing the NPT, Mr. Rao said. He said India had to get ready to have its say to see "how many others agree with the eventual picture, the ultimate picture of non-proliferation as global and non-discriminatory. On this theme India and France had 'very useful discussions' during his stay in Paris, Mr. Rao said.

Rocket technology: Asked if India proposed to explore alternatives as France had declined to offer its rocket technology and to continue supplying fuel for the Tarapur Atomic Power Station on becoming signatory to the NPT recently, the Prime Minister said "I think we will somehow find ways of settling these things so that every time we have discussions with France, these two or three sticking points come out and there the matter ends. We thought on both sides that it is not good to have any outstanding

problems, even if they are between private companies." He noted in this context that some specific discussions had taken place with the French Ministers concerned.

Cooperation to be intensified: In a prepared statement, which kicked off his meeting with the press, the Prime Minister said it was decided to "intensify" cooperation between India and France. A number of high level exchanges at the level of Ministers had been placed on the agenda for the next few months.

The French Industry Minister was scheduled to visit India in January next, and he had promised to come with a delegation of industrialists, the Prime Minister said.

He said he found a similarity of views with French leaders on "important international issues." Both countries felt the need to counter terrorism, and France was especially concerned about terrorism "across national frontiers." Soon, Mr. Rao said, India and France would be holding talks on this question.

The two countries also agreed that the new emerging world order should be democratic, more responsive to the needs of developing countries, and promote multipolarity for greater stability, the Prime Minister said.

He was received at Hyderabad House by Cabinet colleagues, senior party men, and civil and military officials.

CW Pact's Effects on Economy Feared
92WP0007A Madras THE HINDU in English 8 Sep 92 p 8

[Editorial: "Banning of Chemical Weapons"]

[Text] The fears expressed by the Indian Ambassador, Mr. Prakash Shah about the possibility of an adverse impact of the provisions of the draft treaty for the banning of chemical weapons adopted by the Geneva-based U.N. Conference on Disarmament on the developing countries are very real. They should be wholly allayed before the treaty is approved by the U.N. General Assembly.

The endeavours initiated by the United Nations towards taking the first steps for the conclusion of an agreement on the banning of chemical weapons have been long drawn out dating back to the 1960s. If, in spite of the widely shared repulsion towards the use of chemical weapons and the waging of chemical warfare, not much headway could be made towards reaching a consensus on the banning of such weapons, it is partly due to the record of the United States. Though the banning of chemical and biological warfare had figured as an item on the agenda of the U.N. sponsored Geneva talks way back in August 1968, virtually no notice of it was taken simply because of the U.S. resort to the use of chemical herbicides and irritants in the Vietnam war. It was not until the mid-Seventies when the U.S. could persuade itself that the use of chemical and biological weapons was reprehensible that negotiations for the drafting of a treaty could be resumed at the U.N. The hurdles were political and technical. The tasks involved in the defining of chemical weapons, getting the States to

agree to their production being stopped and their stockpile being destroyed and providing for international inspection for ensuring that the provisions of the treaty were complied with were indeed heartbreaking.

The misgivings being felt by India and the other developing countries over the provisions of a convention based on the draft treaty arise, among other things, from the fact that the definition of chemical weapons inclusive of toxic chemicals given earlier in the projected convention was very wide. The developing countries will have to exercise a great deal of vigilance to ensure that the final text drawn up after further detailed consideration of the approved draft treaty does not lump together all toxic chemicals and incorporate draconian provisions covering their import and production. Chemicals which come under the category of the toxic are among the essential inputs for the petrochemical industry the expansion of which is a crucial importance to India and the other developing countries. The flow of state-of-the-art petrochemical technology has always remained tardy and the prospect of the scene brightening is not very encouraging in view of the U.S. attitude relating to intellectual property rights.

The Government as well as the chemical industry in India have enough knowledge about chemicals which are toxic and hazardous and which have a weapon-potential. There is detailed and extensive literature on the degrees of toxicity of chemicals, the concentration and the doses which could make them lethal and the hazards of flammable and explosive chemicals. India has also paid a horrendously unconscionable price by way of the loss of thousands of lives for discovering how chemicals could without warning become a weapon as they did in Bhopal in December 1984. The richer members of the U.N. should not, therefore, imagine that the developing countries are ignorant about these matters. Any convention which is based upon presumptions about what constitute chemical weapons and which is likely to be used to deny access to state-of-the-art chemical technology having nothing to do with chemical warfare should be wholly unacceptable to India and the rest of the Third World.

Nuclear Arms Production Techniques Studied

Rocket Engine Component

93WP0005A Madras *THE HINDU* in English 9 Sep 92 p 19

[Article by P. Sunderarajan: "Electroforming the Thrust Chamber"]

[Text] Scientists at the Central Electrochemical Research Institute (CECRI) at Karaikudi (T.N.) are now engaged in a project sponsored by the Indian Space Research Organisation (ISRO) to make a critical component for the regeneratively cooled (or cryogenic) rocket engine for the third and fourth stages of the launch vehicles. For the first time, and Indian agency has undertaken such an endeavour.

A thrust chamber is a cellular structure with two shells—an inner shell (on whose rim minute channels are drilled for the passage of the coolant) and an outer shell. High temperatures about 4,000°C, during combustion, needs the

ceramic or refractory liner to be a thermal barrier for the inner wall. Herein, liquid hydrogen and liquid oxygen combine to propel the rocket.

The CECRI scientists have developed a thrust chamber for a rocket with a payload of one tonne and are working for a payload of 12 tonnes. The aim is to develop a system for a payload of 230 tonnes.

Prof. S. K. Rangarajan, Director of the Institute, said that the technologies that are developed at CECRI touch almost every aspect of society, though they may not be as visible as the development of missiles or satellites.

A rocket engine is a jet propulsion, device that produces thrust by stored propellants. Liquid propellants have the advantage of having higher specific impulse in comparison with other propellants.

Like any other chemical fuel engine, rocket engines convert chemical energy available in the propellants into thermal energy through combustion process by exothermic (releasing heat) reaction. The only difference being the oxidiser is carried in addition to fuel by the rocket to make the engines to operate even in vacuum. The thermal energy so obtained is in the form of hot gases consisting of various combustion products (up to 200 bar). The generated pressure imparts a momentum to the combustion products.

These hot gases are ejected through a supersonic nozzle at high velocity (2000 m/s to 4500 m/s), thus converting the thermal energy into kinetic energy by the expansion of gases to obtain thrust.

Critical Part for Cryogenic Engine

One of the critical parts of the cryogenic engine is the thrust chamber assembly which consists of subsystems such as injector, combustion chamber and divergent nozzle. Thrust chamber is a combustion device where the chemical energy of the propellants are converted into thrust force. The chamber design, consisting of an inner shell or hot-gas-side wall, coolant flow passages and an outer pressure shell is based on specific heat transfer and stress calculations which may impose restrictions that will dictate the most suitable method of fabrication.

In most of the cryogenic engines a major part of the cooling is achieved by the regenerative method. Here one of the propellants is fed through either tubular or angular passages of the chamber wall and nozzle for cooling before it is injected into the combustion chamber.

In recent years, various methods have been investigated for the fabrication of the regeneratively cooled thrust chamber. Liquid propellant rocket's thrust chamber needs a cellular type of structure for strength and nozzles have coolant-flow passages superimposed on a convergent divergent contour. Fabrication of the thrust chamber involves very intricate contours and critical internal dimensions. To meet the very stringent requirements, the fabrication has to be done with utmost precision and accuracy.

Selecting Materials

The materials used must have compatibility with liquid oxygen and liquid hydrogen, good strength at low and high temperatures, low coefficient of thermal expansion and high thermal conductivity.

The materials used for the fabrication of inner shell should not become brittle during prechilling operation before heat test. They should maintain their properties at the service conditions.

An important factor in the selection of a material is its specificity in application. There are large numbers of metals which differ from one another in composition, corrosion resistance, physical properties and mechanical properties.

Copper was chosen as a material for the thrust chamber, for its excellent thermal conductivity, outstanding resistance to corrosion and ease of fabrication, together with good strength and fatigue resistance.

Tubular Version

The conventional regeneratively cooled rocket thrust chambers, up to a pressure of about 60 kgf/cm², are usually fabricated from many tapered, contoured tubes. This method needs the manufacture of thin-walled tubing from the desired metal, tapering and contouring the tubes, positioning the tubes on a mandrel and finally brazing the unit together.

The method involves many tedious, expensive and time-consuming operations including hand-repairs of leaks in the braze. To the rocket designer this method of fabrication often results in compromising on the system's performance because the cross-sectional area for coolant flow is often dictated by the nozzle contraction-expansion ratio and tube tapering limitations. Since a large amount of tooling is needed (tube drawing, swaging or tapering, contouring and brazing mandrels), modifying a thrust chamber contour is exceedingly expensive.

The success of this method depends on tube forming and brazing. A number of failures due to poor joints are reported. Also manual repair works, which are essential to avoid leakage, become difficult. These repair works can produce local disturbance to fluid flow and heat transfer, causing stress concentrations.

The thrust chamber for the LE-5 engine (Japan) which is rated for 10 T thrust, is composed of 240 double-tapered tubes. The major cryogenic engines of the U.S. such as RL-10 have comparatively low chamber pressures.

Usually the tubes are made up of stainless steel, nickel or inconel alloy which loads the chamber's weight compared to an electroformed construction.

Electroformed Version

Electroformed cryogenic engine thrust chamber has a hot-gas-side inner wall in which coolant channels are

generated. The outer shell is formed by nickel electrodeposition. Electroforming produces whole parts and is not to be confused with electroplating which provides only a final finish on the products.

Requirements of lightweight and high-reliability aerospace components created greater interest in the electroforming process. In comparison with other conventional methods of metal fabrication, one attraction about electroforming process is its lower tooling cost.

The advent of high-energy propellants operating at high chamber pressures has led to combustion temperatures and heat fluxes of such a magnitude that pure regenerative cooling with metallic chamber is often found unsatisfactory. The use of a ceramic or refractory liner to serve as a thermal barrier for the inner wall is a common design inclusion. However, it is not without its problems and drawbacks. Spraying a refractory coating on the inner wall is usually done only after the metallic thrust chamber is completed. So inner wall spraying often poses a problem in terms of access to the chamber's throat regions.

Also, control of cost thickness is difficult. Adhesion of sprayed coating to the metallic substrate is often elusive. But this problem is eliminated in the electroformed version by coating the refractory liner on the mandrel to the desired thickness before the deposition of copper. The thrust chamber with the refractory liner can be removed from the mandrel after the deposition is over.

Electroforming process was first developed by MBB of Germany and adopted for the European Space Agency's HM-1 engine. This engine is completely electroformed and has high strength-to-weight ratio. The HM-7 used in the Ariane cryogenic stage was developed by DEP, France. Regeneratively cooled thrust chamber of this engine was developed by MBB. Shuttle main engine (SSME) makes use of the electroformed construction to meet high heat flux and chamber pressure.

Titanium, Zirconium Technology

93WP0005B Bombay *THE TIMES OF INDIA* in English
5 Sep 92 p 9

[Article: "New Electrolytic Cell Developed"]

[Text] Karaikudi, Sept. 4 (PTI): A new electrolysis-based technology developed in India will accelerate production of titanium and zirconium, two critical nuclear materials.

The new technology developed at the Central Electrochemical Research Institute (CECRI), Karaikudi, will be used to produce the two metals in the Department of Atomic Energy's (DAE) new Titanium-Zirconium Complex slated to be set up near Tuticorin in Tamil Nadu.

The complex, which is scheduled to be ready by 1994, is to produce 1000 tonnes per annum (TPA) of titanium and 550 TPA of zirconium.

Towards this goal CECRI has developed a "bipolar" electrolytic cell in which a single electrode serves as both

the negatively charged cathode and the positively charged anode. Normal cells have two separately charged electrodes.

A 1500 TPA captive plant using the bipolar magnesium cell technology will be set up for the Titanium-Zirconium Complex near Tuticorin.

Scientists fabricate a bipolar cell by inserting an electrically conducting plate between the anode and cathode of a conventional cell.

Aborted Chemical Sale to Syria Draws Protest

Foreign Ministry Comment

93WP0011A Bombay *THE TIMES OF INDIA* in English 23 Sep 92 p 1

[Text] New Delhi, September 22—The government today stated that the Bombay-based firm, United Phosphorus Limited, had not obtained prior clearance for exporting trimethyl phosphite (TMP), a dual-purpose chemical, to Syria.

An external affairs ministry spokesperson said the violation of the export regulations had been referred to the customs authorities for initiating necessary action.

He was commenting on a report in the *NEW YORK TIMES* and some other papers in the US and in India on the subject. Certain reports said the US had protested to India against the shipment of the chemical which is used for making fertiliser but is also an ingredient of nerve gas.

The spokesperson pointed out that TMP was included in the list of chemicals whose export required prior permission from the Union government.

He said India's commitment to curbing the proliferation of chemical weapons was unequivocal and was reflected in the export control regime. While India would continue to exercise effective control over the exports, "We are confident that the coming into effect of the chemical weapons convention will be a positive step, for only a universal and non-discriminatory agreement can provide the most effective means to tackle the problem of proliferation.

The spokesperson recalled that the US and India had held bilateral discussions on the subject, apart from multilateral discussions. Specific cases brought to New Delhi's attention by Washington had been investigated by the government.

PTI adds from Washington: The U.S. administration has kept up its attack on India for the alleged shipment of dual-use chemicals to Syria, supposedly held up in Cyprus.

An administration official told *THE WASHINGTON POST* yesterday that no country other than India has recently "widely and broadly" shipped poison gas precursor chemicals to nations such as Syria that are "seeking to enhance their stockpiles of such (chemical) weapons."

Administration officials told *THE POST* that post shipments have gone to Iran and Iraq.

U.S. Interception Warranted

93WP0011B Bombay *THE TIMES OF INDIA* in English 23 Sep 92 p 16

[Editorial: "The Syrian Episode"]

[Text] As a country which wants the use of all horror weapons outlawed, India accepts the moral responsibility to prevent their spread. It has acted over the years in conformity with the corresponding obligations even when this has involved a substantial cost. A case in point was its refusal to part with sensitive nuclear technology to Libya with a resultant cooling in relations that lost India construction contracts it might otherwise have received. Of a piece with this is New Delhi's effort to ensure that export of chemicals which have dual uses in civilian industry and manufacture of chemical weapons is carefully controlled to ensure that they do not get into the hands of dubious buyers. As the scope for misuse becomes better understood, restrictions on sales are being extended to make them increasingly foolproof. This is quite clear by what seems to have happened in the case of trimethyl phosphite which is used in the manufacture of pesticide but can also be employed in the production of nerve gases. It so happens that when the ban on this went into force at the end of June this year, an Indian firm had a consignment of it on the high seas on its way to a Syrian pesticides plant aboard a German ship. The use of a vessel flying a western flag is in itself a clear indication that the Indian supplier had an intention of making a clandestine transfer.[as printed]

The interception of the shipment by the US as it was being transhipped to Syria from Cyprus would have warranted resentment as an arbitrary interference in international commerce if India had not itself instituted a ban. Besides, as it is pointed out in reports detailing the circumstances, the Bombay supplier had itself begun to have doubts about the bona fides of the Syrian order. Given this background there is no case for India taking umbrage. It is in fact in India's interest to put the facts in perspective so that there is no scope whatsoever for any hostile speculation about its intentions. The fact that India took the initiative to work out with Pakistan a bilateral prohibition on the production, storage and use of chemical weapons in anticipation of the universal convention now being drawn up, is relevant in this context. The basic point to be made is that India is a responsible and mature power which takes its moral commitments seriously, and this applies not just to chemical weapons but also to other horror weapons such as nuclear and biological. Notwithstanding India's objections to the nuclear non-proliferation treaty, there should be no mistaking its total opposition to proliferation.

Seizure Legitimacy Questioned

93WP0011C Madras *THE HINDU* in English 24 Sep 92 p 8

[Editorial: "Dual Use Chemicals"]

[Text] The objections raised by the United States to the export of trimethyl phosphate by a Bombay company to Syria raises questions hinging upon the legitimacy of U.S.

interference with the rights of countries to trade in dual use chemicals because of suspicions about their possible use for the production of nerve gas. With the draft treaty on the banning of chemical weapons drawn up by the Geneva-based U.N. Conference on Disarmament yet to be approved by the U.N. General Assembly, it is doubtful whether shipments of this kind could be considered a violation of any international treaty in force especially when it is yet to be established that the chemical in question was intended for the production of nerve gas. Nevertheless, the prompt halting of the German ship which was sailing with the chemicals to Syria and the action initiated against the Bombay firm by the Joint Chief Controller of Exports and Imports reflect the prevailing nervousness over the mischief potential of the chemical in question.

The U.S. expects the rest of the world to ignore its own record in Vietnam in the Sixties when it resorted to the use of chemical herbicides and irritants and defoliation and submit to its policing of shipments of dual use chemicals. The earlier record of the big powers does not also justify their sitting in judgment over the other countries. During the Second World War, Britain, U.S. and Japan developed biological weapons based on insect disseminations of the agents of plague, anthrax and other diseases. The excesses it had committed in Vietnam did not deter the U.S. from charging the Soviet Union with the use of chemical weapons in Afghanistan though its own scientists could not substantiate this allegation.

Imposition of international restrictions on world trade in dual use chemicals will be acceptable, particularly to the developing countries which are putting up basic chemical complexes, only if these are equitable and non-discriminatory. A Geneva protocol of 1968 had identified chemicals which are asphyxiating, poisonous and toxic and are the inputs for making chemical weapons. A projected chemical weapons convention for the banning of these chemicals had earlier provided for elaborate inspection of the facilities for their production in the member-States. Inspection by an international team of experts could be made mandatory if it could be established that these facilities are used only for the manufacture of chemical weapons. It is, however, by no means certain that even those chemicals identified by the 1968 Geneva Convention are relevant only for the production of weapons and not for peaceful applications. Managements of petrochemical complexes have often drawn attention to how they have to contain "monsters" which are essential industrial inputs in huge spheres and any lapse could lead to repetitions of the Bhopal tragedy of 1984. Apart from the inequity of seeking to regulate the nascent chemical industry in the developing countries on the basis of rigid conceptions, it should be considered whether an international regime for inspection of facilities for the production of chemicals could really ensure a fair deal for these countries. The record in respect of the inspection of nuclear production capabilities cannot make the developing countries very hopeful. The literature on this subject has revealed that while the facilities created for the peaceful uses of nuclear energy in the non-nuclear weapon

developing countries receive the severest scrutiny, the nuclear weapon states have very often got away with cheating and treaty violations. There is, therefore, no justification for the U.S. or its allies assuming holier-than-thou postures while trying to restrict trade in dual use chemicals between developing countries.

AEC Chief Claims Enriched Uranium Capability
93WP0012 Madras THE HINDU in English 2 Oct 92 p 9

[Text] New Delhi, Oct 1—India will produce its own enriched uranium to keep the Tarapur atomic power station (TAPS) running for the next 15 years if France refuses to supply the fuel, the Atomic Energy Commission (AEC) Chairman, Dr. P.K. Iyengar, said today.

Dr. Iyengar did not say where the fuel would be produced. The Department of Atomic Energy (DAE) has a pilot centrifuge enrichment facility at Ratanhalli, 20 km from Mysore.

In an interview over telephone, he told PTI that the country had developed its own technology to make enriched uranium but no decision had yet been taken about using this fuel at Tarapur. Asked when the decision would be taken, he said "we still have time."

Dr. Iyengar said disruption in French fuel supply would not hamper the operation of the TAPS because the DAE had the option of using its own enriched uranium or the home-made MOX fuel that consists of a mixture of oxides of depleted uranium and plutonium.

After the expiry of the 1963 Indo-U.S. agreement on the TAPS next year, India was free to reprocess the spent fuel for recovering plutonium and using it to fabricate MOX fuel, Dr. Iyengar said. Even now there was enough unsecured plutonium available from the reprocessed spent fuel from the Rajasthan and Madras reactors.

IRAQ

'Aziz on Inspection Teams, CW, Reactor
JN2410190592 Baghdad AL-THAWRAH in Arabic
22 Oct 92 pp 1, 6

[By AL-THAWRAH correspondents]

[Excerpts] The extraordinary conference of the Arab popular forces hosted Tariq 'Aziz, Revolution Command Council member and deputy prime minister, at its sixth session at 1830 yesterday. In an address to the conference, Tariq 'Aziz reviewed events between October and November last year and October this year regarding the blockade, the relationship with UN Security Council, and the current Arab state of affairs. [passage omitted]

On the inspection teams, the deputy prime minister said that between April last year and now, 45 teams of stray dogs—as President Saddam Husayn has described them—visited Iraq with the sole purpose of harming Iraq. He added: They try to misrepresent Iraq's position by claiming that Iraq continues to manufacture missiles and

that it still keeps chemical weapons and has an underground nuclear reactor. They are fully aware that such weapons are not made by blacksmiths, but at huge plants and large industrial installations, which they have already destroyed. He remarked: They are propagating premeditated lies to harm Iraq and to justify the continued blockade.

On the scheme of interfering in Iraq's domestic affairs, the deputy prime minister referred to the role of the agents who agreed to consult with the United States and reject what they had already agreed upon with us with respect to the new frameworks for autonomy, democracy, and elections. But as for our people in the south, he said, they have managed to abort their conspiracy. [passage omitted]

UN Envoy Attacks Zionist 'Threat' of Nuclear Arms

JN2410105592 Baghdad INA in Arabic 0945 GMT 24 Oct 92

[Text] United Nations, 24 Oct (INA)—Iraq has affirmed that the Zionist entity's possession of nuclear and other weapons of mass destruction poses a serious threat to pan-Arab security and the safety of the entire region.

Sa'id Hamid al-Musawi, Iraq's representative at the first committee of the UN General Assembly, said last night that the Zionist entity's possession of nuclear weapons will continue to pose a constant threat to pan-Arab security until it is dealt with, along with the rest of its weapons of mass destruction.

He added that Iraq's nuclear program has been exaggerated to achieve political objectives that are now known to the world, adding that Iraq has never sought to possess nuclear weapons, but sought only peaceful investment in energy plants.

Iraq's representative at the first committee added that withholding information about some parts of this program was meant to protect it from an expected aggression, similar to the one carried out by the Zionist enemy against the 17 July reactor in 1981, considering the fact that Iraq has not received any guarantees or protection regarding the possibility of this Zionist aggression being repeated.

He pointed out that 14 nuclear inspection teams have visited Iraq and are through with the requirements of the first and second phases. Professor Zifferero, leader of the 14th team, expressed his conviction that the Iraqi nuclear program no longer exists.

He added that nine chemical inspection teams, three teams specializing in destruction, and 12 other teams specializing in missiles and related equipment, have visited Iraq and found nothing banned by Resolution 687. He pointed out that Iraq is cooperating fully with the team currently visiting Iraq.

He explained that all the claims and fabrications are part of an exposed political game that has special objectives, including maintaining the unjust blockade against the Iraqi people. He added that it is regrettable that some parties use double standards when dealing with Security

Council resolutions by remaining silent over Security Council Resolution 487 of 1981, which asks Tel Aviv to subject its nuclear facilities to international supervision, while misinterpreting and misapplying Resolution 687 toward Iraq.

PAKISTAN

Regional Approach to Nuclear Issue Stressed

BK2310150492 Islamabad PTV Television Network in English 1400 GMT 23 Oct 92

[Text] Pakistan has reaffirmed its commitment to nuclear nonproliferation measures and said global and regional approaches to disarmament should be pursued simultaneously as they complement each other. Participating in a debate on disarmament-related issues at the UN General Assembly's main committee in New York, Pakistan's delegate Syed Rafiqat said since perceived threats to national security are primarily connected with regional conditions, a regional approach offers the most realistic way to make meaningful progress in disarmament. He said Pakistan is willing to accept any equitable and nondiscriminatory regime that would help in keeping South Asia free of nuclear weapons. He referred to a number of proposals made by Pakistan for attainment of the objective of denuclearizing South Asia. He specifically referred to the 1991 proposal of the prime minister for a five-nation conference to ensure nuclear nonproliferation in the region.

Chinese-Aided Nuclear Power Plant Discussed

BK2610094192 Islamabad THE PAKISTAN TIMES in English 25 Oct 92 p 14

[By Altaf Yawar]

[Text] Islamabad, Oct 24—Construction work on the Chinese aided 300 megawatt nuclear power plant will start on the banks of Indus at Chashma next year, Dr. Ashfaq Ahmed Khan, Chairman of Pakistan Atomic Energy Commission [PAEC] said here today.

Briefing local editors and senior journalists on Pakistan's nuclear programme he said, preliminary work on the project had been going apace for the last one year.

Under an agreement signed between Peoples Republic of China and Pakistan the plant is to be completed in seven years' time. According to commissioner chief six years are now left for the Chashma Plant to go into operation and meet the growing energy needs of the nation.

In view of the galloping energy needs of the country Pakistan needed more nuclear reactors which it was trying to import, however. He said and added that if the restrictions and embargoes placed by certain developed countries on the supply of reactors to Pakistan) [bracket as published] the Atomic Energy Commission of Pakistan would have no choice but to build its own power reactors. [sentence as published]

"Our nuclear programme is not in infancy", he maintained, adding that the programme was growing at good speed and was moving towards greater maturity, strength and wisdom.

Dr. Ashfaq said if Pakistan's progress in different sectors of national life was to be compared at international level, it stood at 123rd position in literacy, 111th in potable water and 106th in per capita calorie intake. But when it came to nuclear technology Pakistan was amongst top 15 to 20 countries of the world, he said.

This position, the commission chief said, was due to the devotion of Pakistani nuclear scientists and backing of the people of Pakistan. To safeguard this programme internally was a national responsibility which must be fulfilled at all costs, he stressed. The PAEC chairman held out an assurance that this programme would be pursued in line with "our resources and priorities".

Without mentioning the past friction between former Atomic Energy Commission Chairman Munir Ahmed Khan and Kahuta Nuclear Plant Chief Dr. Abdul Qadeer Khan, he said "it is policies and not personalities that matter" while taking care of the national interests.

Referring to the exploration of more uranium ore deposits in Pakistan Dr. Ashfaq said this exploration programme would be stepped up, maintaining that "uranium lies at the heart of any nuclear programme."

About the training of Pakistan nuclear scientists in China for the Chashma Nuclear Power project, he said this was a continuing process and was taking place satisfactorily.

Dr. Ashfaq advised journalists not to sensationalise news about Pakistan's nuclear programme because sensationalism often led to implications at international level. He said the Atomic Energy Commission was fully conscious of the desire of Pakistan newsmen to report the activities of the Commission more often but this desire should be curbed as far as possible and they should wait for real hard news about the Commission.

According to him the Commission was planning a crash programme in which young and budding journalists would be trained in realistic and rational coverage of the nuclear field. In addition the Commission would periodically prepare literature for those editorial and column writers who write on nuclear activities. Certain senior officers of the Commission would be assigned task of responding to the queries which journalists might have for the Atomic Energy Commission.

Turkey's Demiral Visits Nuclear Science Institute
*BK2610072092 Islamabad Radio Pakistan Network
in Urdu 0200 GMT 26 Oct 92*

[Text] Turkish Prime Minister Suleyman Demirel visited the Pakistan Institute of Nuclear Science and Technology [PINSTECH] near Islamabad yesterday. He was told that Pakistan has given the responsibility to promote peaceful uses of nuclear energy to the Pakistan Atomic Energy Commission. Suleyman Demirel commended the scientists of the PINSTECH for promoting the peaceful uses of nuclear energy.

SUDAN

Iran Reportedly Supplying Arms, Missiles
*NC2310220692 Cairo ROSE AL-YUSUF in Arabic
19 Oct 92 p 71*

[Report by Tariq Hasan]

[Text] ROSE AL-YUSUF has learned that Iran has established an airlift between Tehran and Port Sudan to supply Khartoum with the weapons it needs in preparation for the coming military offensive against [Sudanese People's Liberation Army leader John] Garang's troops in the south. The supplies carried aboard flights that began on 1 September and lasted until 15 September included weapons and ammunition, but surface-to-surface missiles also are believed to have been included.

Observers believe that the purpose of the campaign, preparations for which started at the beginning of September, is to complete the recapture of the areas under the command of Garang and to boost the morale of the [Sudanese] Army. The immediate aim of al-Bashir government is to secure the city of Juba, capital of southern Sudan. The rebels' recent attacks focused on the city of Juba in an attempt to capture it, thus severing the government troops' links to southern Sudan. The city houses the command and supply centers for all the axes along which the government troops have launched their campaigns against Garang.

Former Sudanese military officials have told ROSE AL-YUSUF that the chances of controlling Juba by either side are equal at present, although al-Bashir's troops are in a better position because of the shortage of military supplies for the rebels. The campaign is expected to begin in December and the first target may be west of Equatoria Province, one of the three southern provinces.

Grachev Says N-Missiles Have No Specific Targets
OW1510021292 Beijing XINHUA in English 0138 GMT 15 Oct 92

[Text] Moscow, October 14 (XINHUA)—Defense Minister Pavel Grachev said part of Russia's strategic nuclear missiles have been allowed to stand down from war preparedness. Those still "on duty" are not aimed at specific targets.

He did not disclose how many missiles have been rid of duty and how many are still in use.

In a meeting with journalists, the minister said all the strategic nuclear missiles deployed in Ukraine, Belarus and Kazakhstan have been allowed to stand down from combat vigil.

The minister noted this is the last year of a unilateral suspension of nuclear tests by Russia. If the United States could give a positive response, Russia would like to extend terms of the nuclear test suspension, he added.

The minister said Russia also would set up a new military unit called the mobile force to deal with possible outside invasions.

Russian Ministry Conceals Binary CW Stockpile
PM2310210792 Moscow IZVESTIYA in Russian 24 Oct 92 Morning Edition p 1

[Report by Andrey Illesh and Sergey Mostovshchikov: "Any Journalist Can Be a 'Traitor to the Motherland' Nowadays: Author of MOSKOVSKIYE NOVOSTI Article Detained by Russian Security Ministry and Put in Lefortovo Prison"]

[Text] On 22 October the Russian Security Ministry carried out an operation in Moscow that is comparatively new to the society of emergent democracy. In the morning searches were conducted in the apartments of Doctors of Chemical Sciences Lev Fedorov and Vil Mirzayanov, who published an article entitled "Poisoned Politics" ["Otravlenaya Politika"] in issue 38 of MOSKOVSKIYE NOVOSTI. The authors of the article were then taken to the Russian Security Ministry's investigations directorate in Lefortovo, where Lev Fedorov was told that he is a witness and his colleague the defendant in a case relating to the press publication of information constituting a state secret. Lev Fedorov was allowed to go home in the evening of 22 October, while Vil Mirzayanov is being held in the Russian Security Ministry's Lefortovo detention center.

The article "Poisoned Politics" was printed on page 16 of MOSKOVSKIYE NOVOSTI back on 20 September 1992, under the "Outrage" rubric. Nonetheless, for a whole month (!) after publication there was no sign of any outrage. It was not until the evening of 22 October that Russian Security Ministry staffers turned up at the editorial offices and informed MOSKOVSKIYE NOVOSTI's chief editor Len Karpinskiy for the first time in all that time that a state secret had been published in the pages of his publication. What was this secret? Who precisely had evaluated the degree of secrecy of the information published in the newspaper?—Len Karpinskiy still does not

know. The Security Ministry staffers removed from the editorial offices a xerox copy of the article "Poisoned Politics," made up into pages. The confiscated text corresponds exactly to the item printed in issue 38.

Its thrust is that despite statements by President Boris Yeltsin and other officials, as well as international accords that have been signed, Russia is continuing to manufacture and test sophisticated types of binary chemical weapons, superior in their combat characteristics to virtually everything hitherto known in this sphere. The authors of the item claim that damage caused by the chemical agent developed at the State Union Scientific Research Institute of Organic Chemistry and Technology (GSNIIOKhT), the basis for the manufacture [sozdaniye] of an industrial consignment of the new weapon, is virtually untreatable.

Lev Fedorov, staffer of an organization called Geokhim [expansion unknown; derived from roots "geo-" and "chemical"], and Vil Mirzayanov, former GSNIIOKhT staffer, also state that the research institute where the chemical agents are being developed is in Moscow and is extremely dangerous to the city, since it has an imperfect ventilation emission filtration system. The article also is unequivocally critical of General and Academician A. Kuntsevich, now head of the Committee on Chemical Weapons Convention Problems under the Russian president, who in 1991 received the Lenin Prize for developing [sozdaniye] the "world's mightiest" chemical weapon.

What Is a Secret?

The concept of state secrets in our country is so vague and flexible that it is never possible to establish when a secret is still a state secret, and when it quietly becomes a departmental or even a personal secret. In this case, not being experts, we may assume that the article by Fedorov and Mirzayanov should indeed have been followed by outrage. State officials should have been held responsible in some way for failing to fulfill international accords.

However, after the item was published a month went by, during which time the Russian Security Ministry was apparently collecting documents that could incriminate the scientists, who, incidentally, had not gone to foreign intelligence services, but had openly raised this tricky—to put it mildly—question in the press. According to MOSKOVSKIYE NOVOSTI's information, the Russian Security Ministry has in its possession the preliminary findings of an expert report on the information published in the newspaper, but is refusing to clarify who precisely conducted this expert examination and which of the published facts constitute state secrets. The possibility cannot be ruled out that the investigation involved experts from GSNIIOKhT, which was criticized in the article.

"Arrest 1992-Style"

Lev Fedorov, who, after his return from Lefortovo, gave an interview to MOSKOVSKIYE NOVOSTI journalists, described the consequences of his article in the newspaper as follows. At 0730 hours on 22 October agents from the

Russian Security Ministry—several dozen of them, by all accounts—arrived at his home. Fedorov was handed a search warrant signed by the Russian Prosecutor General's Office. According to the information available, the Russian Security Ministry was given the "go-ahead" for this action by Russian Federation Prosecutor General Valentin Stepankov—nobody had ventured to act before his return to Moscow from an assignment.

According to the MOSKOVSKIYE NOVOSTI journalists the search of Fedorov's place was totally senseless, since the Russian Security Ministry discovered merely a huge file of scientific papers, mainly in English. Inexplicably confiscating merely two copies of MOSKOVSKIYE NOVOSTI—with that same scandalous note—the agents took Lev Fedorov to the Russian Security Ministry's Investigations Directorate at Lefortovo. That evening the doctor of sciences was released after an interview in which he gave evidence about the circumstances surrounding the writing of the article. His colleague continues to be held, which the Russian Security Ministry is only legally entitled to do for three days. Unless, of course, the prosecutor's office sanctions his arrest in the very near future.

The Danger of New Censorship

The official authorities are making no comment about what happened, citing the secrecy that surrounds investigations into a case of the disclosure of state secrets. But the MOSKOVSKIYE NOVOSTI leadership assesses the Russian Security Ministry's actions as an attack on freedom of speech and an instance of revenge by secret departments against academics who are telling people things which have been painstakingly and illegally kept quiet.

Experts whom the editorial office approached for an explanation said that the initiators of the case against Vil Mirzayanov could be various individuals and various departments, including specialists from the Security Ministry (the former USSR KGB), who have been charged with protecting the secrets of various chemical programs. At the same time, Mirzayanov's arrest gives us grounds to believe that the author of the MOSKOVSKIYE NOVOSTI article may have revealed a secret carefully concealed from the world public—that Russia has set up stockpiles of binary chemical weapons, something which even Boris Yeltsin could not have imagined.

The investigation and trial will show whether this is the case or not. That is, if a trial takes place, of course. But as long as the investigation continues, and as long as all the circumstances are unclear, the matter will remain open, and there will be no getting away from the suspicion that top Russian authorities have, at the very least, been insincere.

...There is no law in Russia about state secrets or their protection. What constitutes such a secret? Where are the limits of investigative journalism? Why can we not report certain facts which are currently concealed at the whim of departments trying to cover up their own incompetence or, quite simply, their crimes against society? Where do real

state interests start? In short, all of us—writers and moviemakers—are now potential "traitors to the motherland." As far as some special departments are concerned, even enemies.

'Radioactive Metal' Recovered in Brest

LD2410192792 Moscow Mayak Radio Network in Russian 0900 GMT 24 Oct 92

[Text] We have already reported about the embezzlement of uranium at one of the defense enterprises in Udmurtiya. Local newspapers today publish an official report by the Russian Security Ministry which gives additional information on this scandalous affair. During a search, about 100 kg of radioactive metal was found and confiscated. The strategic raw material had been prepared for sale to foreign buyers.

The criminals chose Brest as their meeting place. In fact Brest was the town where the criminals were caught red-handed. According to Udmurtian Procurator Pokhodin, who is quoted by the local newspaper IZVESTIYA, it is suspected that some of the uranium had in fact been sold. Today the criminals are under arrest. An investigation is under way.

Banned Journal Reveals A-Bomb Spy Reports

MK1710090092 Moscow NEZAVISIMAYA GAZETA in Russian 17 Oct 92 p 1

[Article by Dmitriy Frolov under the rubric "Top Secret": "USSR Did Steal Nuclear Technology From Americans After All"]

[Text] The fact that sooner or later the truth will be out, like many extremely obvious points verging upon banality, is not to the liking of many people. Usually their hostility is active rather than fatalistic, which ultimately does not change the outcome but which sometimes gives rather a curious twist to matters.

The business over the documents concerning the history of the creation of the Soviet atom bomb is no exception in this respect. For many years the only story entitled to have currency was that the bomb was the product solely of the talents and efforts of Soviet scientists, who were independently able to resolve the necessary scientific and technical tasks, thereby ensuring that the balance of forces was restored, with all the ensuing consequences. Of course, the official account could not stand up to serious criticism. At any rate, the case of the Rosenbergs, who were executed on charges of having handed atomic secrets over to the Union, and the defection of Bruno Pontecorvo, one of the members of the "Fermi" group, who later became a full member of the USSR Academy of Sciences, are events that preclude any unequivocal interpretation. The fact that information about the "uranium problem" had percolated one way or another from West to East was in general clear, but the role and volume of this information were of course strictly secret. Foreign intelligence removed the classification "Top Secret" from documents shedding light on the true situation only about 18 months ago. Thanks to this a former staffer—Anatoliy Yatskov, who during the forties

was assistant to the agent providing the channel from Los Alamos to Kurchatov's No 2 Laboratory—was able to make them public. The package of material covering the period 1941-1946 not only shows unremitting interest and a wealth of agent connections, it also provides proof that, thanks to intelligence, we had a very detailed (including dimensions and other technical details) description of the design of a plutonium nuclear device similar to the one dropped on Nagasaki. Two documents are devoted to this description: The first is a report from New York running to a little less than one typewritten page that was drawn up "in order to brief" Kurchatov, then there is the eight-page text of the detailed description with a cover letter to Beriia, dated July and October 1945 respectively and bearing the numbers 12 and 13. These two documents, along with others, were to have been published in the Russian Academy of Sciences journal VOPROSY ISTORII YESTESTVOZNANIYA I TEKHNIKI, of which a preprint copy was sent to Academician Yuliy Khariton, a direct participant in the development of the Soviet nuclear bomb who until recently headed the well known Arzamas-16 facility. The result was a letter indicating that it was inadvisable to publish the documents in question on the grounds that this would be a violation of the 1968 Treaty on the Nonproliferation of Nuclear Weapons, point one of which prohibits the dissemination of information about military nuclear technologies. A similar letter was also sent to the Foreign Intelligence Service. When the editorial office turned to U.S. specialists for expert help, they too did not deny the possibility of interpreting the situation in that way.

It has to be said that this is not the first time there has been this kind of coincidence between the positions of leading nuclear scientists. At any rate, during a press conference Professor Edward Teller, who visited Russia recently, stated that "the contribution made by intelligence to the development of nuclear weapons was nonexistent." This sounded more than strange, since it is well known that competition between special services in this sphere began back in the Old World before the occupation of France during World War II.

As for the documents, their fate is unclear. The other day the editorial office of the journal, which had already been printed, received a fax from the Foreign Intelligence Service recommending that documents Nos 12 and 13 be removed. The print run was "held back," but subscribers in St. Petersburg and Petropavlovsk received part of it in the original form. A certain piquancy is added to the situation by the following detail—one of the documents was published six months ago in the form of a perfectly legible facsimile in the open publication VESTNIK SOVETSKOY RAZVEDKI. Moreover, specialists in both the espionage sphere and the armaments sphere may be surprised by the hypothesis that, given modern technologies, anyone nowadays would consider making a bomb based on the 1945 pattern. Experts are inclined to believe that, in addition to the first "legal" nuclear powers, several other countries have nuclear weapons or the potential to produce them, but they scarcely obtained them thanks to articles in popular science magazines. But it is equally

unlikely that it will now be possible, as was supposed, to publish archive material about the initial stage of the nuclear project. In the near future, at any rate.

Uranium Theft Attempt Foiled in Izhevsk

LD2110024492 Moscow Russian Television Network in Russian 1700 GMT 20 Oct 92

[Text] Our correspondent reports from Izhevsk: During the course of operational measures yesterday and today—19 and 20 October—a group of criminals who had organized the theft of uranium from one of the defense enterprises of the republic were detained by members of the Udmurtiya procurator's office and the Ministry of Security. The strategic raw material was to be sold abroad at a price of \$100-170,000 per kilogram. Some 100 kilograms of uranium have been confiscated to date, and the Russian president has been informed of the theft incident.

Nuclear Non-proliferation Initiatives Discussed at UN

LD2210113192 Moscow ITAR-TASS in English 0838 GMT 22 Oct 92

[By ITAR-TASS correspondent Boris Sitnikov]

[Text] United Nations October 22 TASS—The problem of the non-proliferation of all types of weapons of mass destruction and means of their delivery is moved to the fore in multilateral efforts today, Russian Federation representative B. Krasulin told a plenary meeting of the 47th U.N. General Assembly session devoted the discussion of the annual report by the International Atomic Energy Agency (IAEA) on Wednesday.

"Russia regards it as particularly important to make sure that the disintegration of the USSR should not entail the complication of the situation in the non-proliferation sphere. Of fundamental importance in this context are the commitments by Belarus, Kazakhstan and Ukraine to join the treaty on the non-proliferation of nuclear weapons as non-nuclear states," Krasulin said.

In the light of real progress in nuclear disarmament, the problem of limiting nuclear tests to the point of their full cessation is gaining increasing importance, he went on. "Russia favours beginning drafting a pertinent international treaty immediately and with the participation of all states. The Russian moratorium, which was extended by President Yeltsin's decree to July 1, 1993, the suspension of the nuclear testing programme by France and the recent decision by the U.S. demonstrate that the approach to this problem is changing in the constructive direction," Krasulin noted.

Issues of further refining the regime of security guarantees for states that do not possess nuclear weapons should remain in the focus of the U.N.'s attention. "Russia, who is the successor to the USSR in the U.N. and the Security Council, confirms the statement by the Soviet representative in the Security Council on June 17, 1968 on the issue of the so-called positive guarantees." Krasulin underscored the expediency for the General Assembly recommending to the Conference on Disarmament that the

special committee on guarantees step up its work "for the purpose of stimulating the quest for generally-accepted practical solutions in this field."

"The General Assembly could pronounce in favour of drafting as soon as possible an international accord to terminate the production of fissile materials which are used in the manufacture of arms. Russia calls for including this problem in the negotiating process immediately," Krasulin added.

He said Russia welcomes the United States' decision to give up the production of plutonium and highly-enriched uranium for purposes of nuclear disarmament and, for its part, reiterates the intention to continue implementing the programme to shut down the remaining weapons-grade plutonium production capacities. The Russian proposal to the U.S. to begin immediately negotiations on terminating, under control, the production of weapons-grade fissile materials also remains in force.

Ukraine Allegedly Plans To Send Arms to India

*AU2310151792 Kiev MOLOD UKRAYINY in Ukrainian
20 Oct 92 p 1*

[Unattributed report published under the rubric "Fakt"]

[Text] The Indian mass media, reporting about the visit to Kiev by Indian defense minister Sharad Pavar [name as transliterated], point out that their country is hoping to obtain weapons and spare parts for them from Ukraine.

German Firms Compete for Chernobyl Replacement

*AU1310125892 Kiev URYADOVYY KURYER
in Ukrainian 2 Oct 92 p 11*

[Information issued by Ukraine's Prime Minister's Press Service: "What Can Replace the Chernobyl Atomic Electric Power Plant?"]

[Text] As reported by Ukraine's Ministry of Energy and Electrification, a thermal electric power plant equipped with the most advanced steam-gas installations will be built in Chyhyryn [town in Cherkasy Oblast]. Its capacity will be almost two million kilowatts. It will replace the energy units of the Chernobyl Atomic Electric Power Plant.

The West German firms "Siemens" and ABB [Asea Brown Boveri] are competing for the right to build the plant.

Belarusian, U.S. Generals on N-Arms Withdrawal

*WS2110133392 Minsk NARODNA HAZETA
in Russian/Belarusian 1 Oct 92 p 1*

[Article by Pavel Yakubovich: "Generals Are the People Who Know the Price of Security Better Than Anyone Else"]

[Text] Not long ago, our Foreign Ministry was severely criticized for its chaotic foreign policy. The initialing of the documents at the Belarus-United States talks, which were completed yesterday, may be a positive response to this

critical remark. But it should be noted that both delegations were headed by military envoys. Nevertheless, the members of the Belarusian delegation must be credited for the results of the three days of work.

So what did the military officials and diplomats discuss in Minsk?

General Major A. Yegorov, deputy chief of Belarusian Defense Ministry Headquarters, and two-star General U. Berns [name as transliterated], envoy extraordinary, had to coordinate and prepare for signing an interstate agreement which was not an ordinary one. The generals discussed the problem of the open transformation of Belarus into a nonnuclear zone. The serious problems of today and tomorrow were discussed.

The issue is that in accordance with the Nunn-Lugar law, adopted in the United States, the American Government allocated about one-half billion dollars from its budget for assistance to the CIS countries that possess nuclear weapons and, in accordance with their constitutions, want to get rid of them. Russia has signed this agreement and has been transferred a certain number of millions of dollars for the destruction of nuclear weapons and materials. At the same time, Ukraine is maneuvering to make it clear that it is ready to accept this assistance, but does not want to transport warheads and nuclear field charges to be destroyed in Russia. In general, we see a typical picture of totalitarian and not very comprehensible competition between the two largest republics of the former USSR. Thank God, that Belarus does not want to keep the nuclear missiles on its territory, which could later be "privatized" and then become a terribly dangerous matter of concern.

The Belarusian Government is ready to accept the United States' help in order to withdraw the nuclear weapons, which are situated on its territory but are under Marshal Shaposhnikov's control. The United States will send to Belarus all the necessary heavy materiel, which could be used to extinguish fires, and assist during floods and other natural calamities. In addition, the American side will bear all the expenses and will provide all the technical support in order to withdraw the nuclear weapons from Belarus to the locations that have been established for their destruction. Taking into consideration that Belarus is a window to Europe, the American Government promises to set up a deadlock system designed to prevent the smuggling of nuclear weapons through Belarusian territory. The Americans will also install a hot line between Minsk and Washington. By the way, no such hot lines exist with London and Paris. This fact was particularly stressed by General Berns at the end of the talks.

On the whole, the talks were rather complicated. But the topic of discussion concerned the strengthening of the political status of Belarus among the civilized countries, which are looking for true security.

Georgia Accuses Abkhazians of Using CW

*OW2510174092 Moscow INTERFAX in English
1710 GMT 25 Oct 92*

[Transmitted via KYODO]

[Text] Georgia's state minister, Georgiy Khaindrawa [name and title as received], who is also a government envoy in the Caucasian region, has said Abkhazian and North Caucasian irregulars have again used chemical weapons during this morning's shelling of Georgian positions. As a result, eight Georgian soldiers were taken to hospital with symptoms of heavy poisoning.

The envoy said the act was in flagrant violation of the existing international agreements proving "the barbaric nature of the aggressor". The actions by "the leaders of Abkhaz separatists contaminating the soil in Sukhumi, he said, indicate their indifference to the fate of Abkhaz families and those of other ethnic groups residing in the city". [quotation marks as received]

However, the Abkhazian authorities deny this.

Abkhazia Denies Claims

*LD2510173792 Moscow Mayak Radio Network in Russian
1600 GMT 25 Oct 92*

[Text] According to a report by the INTERFAX agency, Georgian troops have been conducting artillery shelling of Abkhazian positions during the past 24 hours. The stances taken by the warring sides have not changed. The Abkhazian Defense Ministry denies accusations made by the Georgian Army's leadership to the effect that it has used chemical projectiles. Ministry representatives state that Abkhazia has never had chemical weapons and is prepared to grant any independent commission the opportunity to check the validity of this statement.

NORWAY

Russia Planning To Destroy CW Stockpiles

Nuclear Detonation Planned

93WP0009A Oslo AFTENPOSTEN in Norwegian
6 Oct 92 p 12

[Article by Ole Mathismoen: "Want To Destroy Chemical Weapons in Nuclear Blast"]

[Text] *Russia has continued plans to get rid of old chemical weapons by a nuclear detonation on Novaya Zemlya.*

Minister Viktor Mikhaylov of the Russian Ministry of Atomic Power confirms that plans exist to destroy stockpiles of old chemical weapons by an underground nuclear explosion. He tells the English-language newspaper MOSCOW NEWS that this is a good idea: "Such an explosion destroys and neutralizes the weapons underground. By this method, it is possible to entomb tens of thousands of weapons at a single blow."

The plan has been developed by the private company CHETEK, which has sprung up out of the scientific milieu within the military nuclear research field. Mikhaylov says that the project has been put on ice because of costs. Other sources advise that planning continues.

Rumors have been buzzing for many months about future activity on Novaya Zemlya, northeast of Kola. Russia's self-imposed moratorium on nuclear detonations runs out in October. It is known that President Boris Yeltsin signed a decree in January that opens the way for up to four test detonations on Novaya Zemlya annually.

Tunnel Ready

At least one completed tunnel for test detonations has been dug on the northern area of the island group. Rumors will have it that a so-called scientific research bomb will be detonated during October-November this year. But there is nothing to indicate that chemical weapons will be destroyed in this detonation.

"During our visit to Russia, several reliable sources said that a scientific test will take place this year," says Frederic Hauge of Bellona.

Director Knut Gussgard of the National Atomic Energy Inspectorate says that he also has heard such rumors: "I do not want to speculate, but I will not be surprised if a test is carried out this year," he says. Gussgard has not heard anything about destruction of chemical weapons since he was told about that during a conference in Canada half a year ago.

Nonmilitary Activity

President Yeltsin has not said anything about how extensively new military test explosions will be resumed. The United States Senate has approved a total halt of military test detonations beginning in 1996, but President George Bush has threatened a veto.

Neither Russia nor the United States has said anything about nonmilitary test detonations. And it is here that the

future activity will lie. It may be for this reason that CHETEK was established. There are long traditions in Russia for so-called peaceful nuclear devices or nonmilitary detonations. Approximately 115 devices are said to have been detonated in the former Soviet Union in connection with phosphate extraction, coal mining, gas exploration, etc.

Mikhaylov puts it as follows to MOSCOW NEWS: "I have said to Yeltsin: If we want to continue to be a nuclear power, we have to have testing. Two or three a year, this is enough. Where will they be detonated? On Novaya Zemlya, of course. There is no alternative. Nobody in the world will understand us if we build yet another test site." Mikhaylov maintains that detonations on the island group in the Barents Sea provide optimal security.

Creates Fear

Hauge and others from Bellona have travelled extensively around northern Russia in recent years and have felt the people's fear firsthand: "Many Russians, military included, are worried about the prospect of test detonations. There are no reliable statistics, but people have no doubt that the activities of the recent decades have been accompanied by significant harm to health," he says.

Must Be Taken Seriously

Hauge says that one must take seriously signals such those as given by the Minister of Atomic Power.

"The Ministry of Atomic Power is a very strong power factor in Russia, and there is no clear division between the civilian and the military nuclear industries. Nobody ought to be surprised that plans to blow up chemical weapons still exist. It is very expensive and complicated to destroy such weapons. It is cheaper and simpler to blow them up with a nuclear charge," says Hauge.

Russia has many and great environmental threats. The enormous stockpiles of poisonous special refuse are one. Others are nuclear waste, discarded chemical and biological weapons, and the remains of dismantled nuclear missiles. For some time, CHETEK has been creating a stir with its plans to store or destroy special waste on Novaya Zemlya. There was also talk about importing such waste from the West in order to finance the operation. It has now been confirmed that concrete plans exist to destroy "waste" in connection with nonmilitary detonations on the island group. Large amounts of special refuse are said to have been destroyed by earlier test detonations.

Concern in Atomic Energy Inspectorate

"Russia has not distinguished itself by the consideration it has shown for the environment in its military nuclear activities. They are mixing chemical weapons up in test blasts and I am concerned," says Knut Gussgard of the National Atomic Energy Inspectorate.

Gussgard first heard about the plans to destroy chemical weapons in nuclear test detonations half a year ago. He will not be surprised if Atomic Energy Minister Viktor Mikhaylov confirms that they continue to exist. "There are

all possible grounds to be concerned. Russia has not distinguished itself by the consideration it has for the environment in its military nuclear activities—first and foremost in the production of nuclear weapons. If the underground test blasts go as planned, leaks are unlikely, but accidents can never be excluded,” says Gussgard.

He is of the opinion that the danger of accidents and damage to the environment doubles if chemical weapons are destroyed at the same time.

Gussgard is also afraid of another spreading effect.

“The private Russian company CHETEK has indicated that it can help other countries to get rid of special refuse using nuclear weapons. There is also a great danger that some of the thousands of nuclear warheads that are in circulation in Russia will end up in other countries. In other words, test detonations can in a way legitimize the use of nuclear weapons,” says Gussgard.

[Box, p 12]

The Test Blast Area

- Use of Novaya Zemlya as a test detonation area began in 1957. The last test blast took place in October 1990.
- A total of 120 nuclear devices have been detonated there, 82 of them before 1963 when a prohibition of above-ground detonations was introduced. Since then, all detonations have taken place below ground.
- In addition, five devices were exploded in the Barents Sea—all before 1963.
- The last accident took place in 1987, when cracks appeared in the bedrock and radioactive gasses leaked out. Also in 1990, Swedish researchers measured certain radioactive gasses.
- There are two test areas. The southern area has not been used since 1975. The northern field lies on the Matochkin Strait, just inside the western outlet. The tunnels are usually bored horizontally into the rock.
- Approximately 30,000 persons connected with the military activities live on the islands. The nearest civilian settlement is on Vaygach Island, 80 kilometers away. Kirkenes lies circa 900 km. from Novaya Zemlya.

More on Underground Procedure

LD2310180292 Helsinki Suomen Yleisradio Network in Finnish 1530 GMT 23 Oct 92

[Text] It is claimed that Russia is planning to destroy nuclear bombs and chemical weapons due for destruction by carrying out underground explosions in Novaya Zemlya. The claim has been presented by a Norwegian environmental group, which says that it received the information from high-ranking Russian sources. It is said that the underground explosion method is the cheapest way to get rid of the weapons, the destruction of which has been agreed by international disarmament agreements. Ulla-Maria Johansen reports from Oslo.

[Johansen] The Russian Ministry of Defense and the nuclear armament town responsible for the technology for destruction of nuclear weapons, Arzamas 16, are planning to destroy nuclear weapons and chemical weapons by underground nuclear explosions in Novaya Zemlya because this is the cheapest way of getting rid of these weapons. This is claimed by Fredrik Hauge, the head of the Norwegian environmental organization Bellona, who recently visited Archangel, and according to whom the deputy leader of Arzamas 16, Aleksandr Kozernysev, told him about the Russian plans in detail.

According to the disarmament agreement between the superpowers, Russia must destroy the nuclear heads of 5,000 medium-range missiles. The dismantling of these would take five years and 10 billion rubles [R]. To destroy them in underground nuclear explosions would cost less than R500 million, and the preparations for the explosion would take less than a year, Fredrik Hauge reports. The plan is to explode 5,000 nuclear heads simultaneously 600 meters underground inside a mountain in Novaya Zemlya by using a nuclear bomb of 50 kilotonnes. In the explosion, the nuclear heads would melt and the mountain form a glass-like shell to form a capsule around the 20,000 kilos of plutonium, Hauge said about the plans of the Russian experts.

This type of nuclear weapons destruction technology has never been tested before in practice, and the Norwegian Nuclear Power Inspection Board, for example, has a very skeptical view on the proposed plans and thinks that the implementation of these plans is dangerous.

The aim is also to destroy old chemical weapons, of which there are 40,000 tonnes in Russia, by nuclear explosions in Novaya Zemlya in three explosion operations, each of which would include six simultaneous explosions, that is, 18 nuclear explosions altogether, Fredrik Hauge reported. It is estimated that the destruction technique to be used would cost one-tenth of the cost of dismantling the chemical weapons.

The United States has more money, and it is estimated that the United States will dismantle its 30,000 tonnes of chemical weapons in factories. This is expected to take 100 years if no new factories are constructed. The United States is also going to dismantle the nuclear heads of the medium-range missiles to be abolished, the head of Bellona, Fredrik Hauge said.

This is Ulla-Maria Johansen reporting from Oslo.

UNITED KINGDOM

NATO Ministers Open Talks on Nuclear Strategy

AU2010093492 Paris AFP in English 0912 GMT 20 Oct 92

[Text] Gleneagles, Scotland, Oct 20 (AFP)—Defense ministers of the North Atlantic Treaty Organisation opened Tuesday [20 October] two days of talks on nuclear strategy and the future of an alliance struggling to find new purpose after the cold war.

Officials said no major announcements were expected from the meeting of NATO's Nuclear Planning Group [NPG] a year after the NPG slashed its stockpile of tactical nuclear arms by 80 percent.

They said non-nuclear issues such as a possible peace-keeping role for NATO, lessons from the conflict in ex-Yugoslavia and the alliance's relations with the Western European Union defense group, would occupy a large part of the agenda.

The NPG groups defense ministers from the United States, Canada and NATO's 14 European members except France, which left the alliance's integrated military command in 1967, and Iceland, which is an observer.

A NATO official conceded the meeting was largely symbolic to convey the message that the alliance still puts great stock in its nuclear arm, even if it is facing no real nuclear threat.

The NPG meeting in Sicily last year cut NATO's stockpile of tactical nuclear warheads in Europe from 3,600 to some 700 airborne nuclear bombs.

But officials said concern lingered whether Russia had fulfilled its pledge to withdraw all its sea-based tactical nuclear weapons.

Other nuclear issues on the agenda, they said, were modernisation of forces and the question of testing following the moratoria announced by the United States, Russia and France.

Commentary on Talks

*LD2210083792 Moscow Radio Moscow World Service
in English 1210 GMT 21 Oct 92*

[Commentary by Yuriy Solton]

[Text] Our observer Yuriy Solton analyzes the work by NATO's Nuclear Planning Group in Gleneagles, Scotland:

NATO's Defense Ministers usually choose for their sessions pleasant resort towns with golf facilities they can use sometimes and no wonder Western journalists ironically say in regard to their meetings, NATO plays golf again. But seriously speaking, the ministers of NATO states, with the exception of France and Iceland staying away from the military structures of the bloc, are engaged in other reckless games.

Since 1957 when the group was formed, its participants have worked out a strategy and tactics for nuclear wars in Europe. But there is every indication that their current meeting—52nd in number—is to be the last. At any rate the group will drastically change its specialization. Too few nuclear toys have remained in Europe. Last year NATO's leadership decided to cut the nuclear forces of the alliance by 80 percent. This decision is being reciprocated by Russia, where the tactical nuclear missiles that have remained after the decomposition of the USSR in Ukraine, Belarus, and Kazakhstan are being scrapped.

Now the ministers are adopting what seems to be a very important decision to cancel the former directive instructions on the use of nuclear weapons in Europe. The probability that NATO will ever have to resort to nuclear weapons has strongly diminished, Germany's Defense Minister, Volke Ruhe, declared at the news conference. Today we do not have a nuclear weapon that could be aimed against any country, he added.

Yet NATO's ministers have not seen through this. They have agreed upon new directives according to which NATO's allies in Europe will keep a small nuclear arsenal as a political guarantee of peace. Nor do they rule out the possibility of using nuclear weapons on a very limited scale to resolve conflicts, not waiting for an adversary to use such arms. In short, although in a veiled form and on a far smaller scale, the theory of being the first to use nuclear weapons remains in effect only to be regretted.

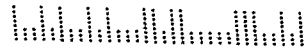
Yet another major decision has been adopted to draw up at the end of the year plans to bolster security in Europe and attract to these efforts the states that belonged to the former Warsaw Pact. NATO's military committee will scrutinize the various proposals on how to use the troops belonging to the Alliance's structure for settling volatile situations in Central and Eastern Europe—above all in former Yugoslavia. Even now it is planned to set up a Rapid Deployment Force 100,000 men strong to operate in keeping with the resolutions of the United Nations and the European Security and Co-operation Conference. A special meeting could be held early next year with the defense ministers of East European states, Russia included.

Such a trend in NATO'S activities could only be welcomed. It inspires a hope that one day defense ministers would get together just to play golf rather than draw up military plans.

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